The Impact of Entrepreneurship Education on the Relationships between Institutional and Individual Factors and Entrepreneurial Intention of University Graduates: Evidence from Zambia

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Abstract

University education is no longer a passport to secure employment for graduates. This requires young graduates to consider entrepreneurship and self-employment as a viable career option. Understanding the determinants of entrepreneurial intention (EI), therefore, becomes important. In exploring the determinants of EI, prior studies investigate the effects of individual factors, contextual factors and entrepreneurship education (EE) in isolation from each other. Moreover, literature on the effect of EE on EI shows mixed conclusions. The current study, by considering EE as the kernel, firstly examines individual and institutional determinants of EI. Secondly, it explores whether EE affects the relationships between EI and its individual and institutional determinants. To avoid bias from utilising one particular methodology, this study purposely employed a concurrent triangulation strategy. This was intended for model testing and in-depth understanding of the research issues in the Zambian context. Primary data were collected from Zambia via qualitative interviews and a quantitative survey. For the qualitative study, 13 interviews were conducted and interviewees included final year undergraduate students, educators and practitioners in enterprise support organisations. For the quantitative study, 452 useful responses were received from final year undergraduate students. Research results suggest that, firstly, EI is primarily a function of perceived feasibility and desirability of entrepreneurship. Secondly, individual and institutional factors directly influence perceived feasibility and desirability of entrepreneurship. Thirdly, and more importantly, individual and institutional factors indirectly exert their impact on perceived feasibility and desirability via EE.

The study contributes to knowledge in four major areas. Firstly, against the backdrop of mixed conclusions in prior research about the effect of EE on EI, this

study finds that the effect of EE should be examined in conjunction with factors at individual and institutional levels. Specifically, it establishes that effectiveness of EE mediates the effects of individual and institutional factors on perceived feasibility and desirability of entrepreneurship i.e. the attitudinal antecedents of EI. This helps clarify the role of EE. Secondly, unlike prior studies and models that examine the influence of EE, individual factors and contextual factors in isolation from each other, this study develops and validates a multi-level integrated model to explore how these factors jointly shape EI. Specifically, the model shows that factors at individual and institutional levels influence EI not only through their effects on perceived feasibility and desirability but also through their impact on the effectiveness of EE. Thirdly, the study provides evidence from Zambia, an under-researched developing country, that EI is primarily a function of perceived feasibility and desirability of entrepreneurship. This supports prior research conclusions from developed countries. Lastly, the study further develops and validates constructs for EE, providing a basis for evaluating EE. In particular, it demonstrates that effectiveness of EE in relation to EI can be evaluated from three angles: perceived learning from the module/programme, experiential learning and access to resources. On the whole, the findings derived suggest that, in order to promote graduate entrepreneurship, multifaceted and concerted efforts will be required from policy makers (to help shape institutions), practitioners (to devise and implement collaborative support mechanisms), educators (to design and deliver appropriate EE content and pedagogy) and scholars (to evaluate and develop knowledge).

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TABLE OF CONTENTS

List of Appendices

List of Figures

List of Tables

List of Abbreviations and Acronyms

ANOVA	Analysis of Variance
ATB	Attitude Toward the Behaviour
AU	African Union
BI	Business Incubator
BIS	Department of Business Innovation and Skills (UK)
BoZ	Bank of Zambia
BTS	Bartlett's Test of Sphericity
CABI	Canadian Business Incubation Association
CBI	Confederation of Business and Industry
CEEC	Citizens Economic Empowerment Commission
CMB	Common Methods Bias
CR	Critical Realism
CSO	Central Statistical office (Zambia)
DI	Desire for Independence
EC	European Commission
EE	Entrepreneurship Education
EI	Entrepreneurial Intention
ESE	Entrepreneurial Self-Efficacy
EU	European Union
GATE	Growing America Through Enterprise
GDP	Gross Domestic Product
GEM	Global Entrepreneurship Monitor
GSE	Generalised Self-Efficacy
HEIF	Higher Education Innovation Fund
IAR	Interaction and Access to Resources
ICMM	International Council on Mining and Metals
ILC	Internal Locus of Control
ILO	International Labour Organisation
IMF	International Monetary Fund
KMO	Kaiser-Meyer-Olkin measure
LC	Locus of Control
MSMEs	Micro, Small and Medium-sized Enterprises
NAch	Need for Achievement
NBIA	National Business Incubation Association
NGO	Non-Government Organisation
NI	Normative Instititution
NTE	Non-Traditional Exports
NTBC	National Technology Business Centre

NUS	National Union of Students
OECD	Organisation for Economic Cooperation and Development
PA	Personal Attitude
PBC	Perceived Behavioural Control
PCA	Principal Component Analysis
PEE	Prior Entrepreneurial Exposure
PI/EL	Practical Involvement in Entrepeneurship/Experiential Learning
PLS	Perceived Learning and Skills acquired from the Module/Programme
QAA	Quality Assurance Authority (UK)
RTP	Risk Taking Propensity
SARUA	Southern African Regional Universities Association
SCT	Social Cognitive Theory
SEE	Shapero's Entrepreneurial Event Model
SEM	Structural Equation Modelling
SLT	Social Learning Theory
SMEs	Small and Medium-sized Enterprises
SN	Subjective Norms
SPEED	Student Placement for Entrepreneurs in Education
SPSS	Statistical Package for Social Sciences Version 20
TEA	Total Early Entrepreneurial Activity
TPB	Theory of Planned Behaviour
UoW	University of Wolverhampton
UWBS	University of Wolverhampton Business School
UK	United Kingdom
UNCTAD	United Nations Conference for Trade and Development
UNESCO	United Nations Education, Scientific and Cultural Organisation
US/USA	United States of America
VIF	Variance Inflation Factor
WB	World Bank
WEF	World Economic Forum
ZDA	Zambia Development Agency

List of Key Definitions

Entrepreneurship
Entrepreneurship is a process that involves the recognition, evaluation and exploitation of opportunities to meet market needs (by introducing new products or processes, access to new markets or raw materials) through organising efforts that previously had not existed.

Graduate Entrepreneurship
Graduate entrepreneurship is concerned with the extent to which graduates as products of university/college education engage in new venture creation or self-employment.

Intention
Intention is an indication of how hard an individual is willing to try, of how much of an effort he or she is planning to exert, in order to perform a behaviour.

Entrepreneurial intention
Entrepreneurial intention is a self-acknowledged conviction of a person who intends to start a business and consciously plans to do so at a certain point in future.

Perceived Desirability
Perceived desirability of entrepreneurship refers to the degree to which an individual finds starting and managing one's own business attractive i.e. the eagerness a person demonstrates to start a business.

Perceived Feasibility
Perceived feasibility of entrepreneurship is the degree to which one believes that not only is he/she personally capable of starting and managing a business but that entrepreneurship is a viable undertaking.

Enterprise Education
Enterprise education is concerned with developing "an enterprising way of thinking and a way of doing" in students. It is a pedagogical approach that involves creative idea generation, development and implementation. This approach helps to develop enterprising attitudes, skills and behaviours which can be applied in the world of work in any field.

Entrepreneurship Education
Entrepreneurship education is the transfer of knowledge and skills about how to create, manage and grow a business.

Effectiveness of Entrepreneurship Education
Effectiveness of entrepreneurship education referes to the level of entrepreneurship knowledge and skills students acquire through entrepreneurship education.

Environmental Institutions on Entrepreneurship
Institutions comprise the relevant factors in the environment that provide formal and informal rules and norms that either restrict or facilitate entrepreneurial behaviour.

- Regulatory institutions include favourable laws and regulations for business formation and operations as well as mechanisms supportive of individuals' entrepreneurial efforts.
- Cognitive institutions refer to the level of shared knowledge and information in society about venture creation, operations and growth.
- Normative institutions refer to acceptability and admiration of innovation, creativity and entrepreneurial careers in society.

CHAPTER 1: INTRODUCTION TO THE RESEARCH

1.1 Outline of the Research Project

Entrepreneurship involves identifying, evaluating, and exploiting opportunities and introducing new products to the market through organised efforts (Carree and Thurik, 2010; Kirzner, 1997; Knight, 1921; Miller, 1983; Schumpeter and Backhaus, 1934; Shane, 2003). There is a general recognition that entrepreneurship contributes to economic development, competition, innovation and employment generation in economies (de Kok and de Wit, 2014; Hessels and van Stel, 2011; Neumark et al., 2011; Peters, 2014; Pickernell et al., 2011; Wennekers et al., 2005). For instance, in Zambia, micro, small and medium-sized enterprises (MSMEs) account for 97% of all firms and contribute 89% of the jobs in the economy (CSO, 2011a; CSO, 2011b; CSO, 2013). In developed countries like the United Kingdom, MSMEs account for 99.9% of all enterprises, 58.8 % of private sector employment and 48.8% of private sector turnover (Lord Young, 2012).

Given the potential benefits in relation to entrepreneurship (Gray, 2006), there is increasing expectation that entrepreneurship addresses the unemployment challenges faced by young university graduates (Henry, 2013). On the one hand, as technology and contingent factors are changing, the expectations of employers are shifting and they increasingly demand for graduates who possess enterprising or entrepreneurial attributes to help them develop competitive advantage (CBI - NUS, 2011; Collins et al., 2004b; Galloway et al., 2005; Mitra, 2011; Wilson et al., 2009). Competition for jobs is becoming intense, therefore, students need to proactively develop appropriate skills to align with the changing job market (Woodier-Harris, 2010). On the other hand, university education is no longer a

passport to secure employment for the 21st century graduate (Collins et al., 2004b; Nabi and Bagley, 1999). Globally, the number of new graduates is increasing while available jobs are fewer, compelling stakeholders to consider initiatives that promote new venture creation as a viable career option (Culkin, 2013; Nabi and Holden, 2008). Thus, understanding factors that promote graduates' involvement in entrepreneurship becomes vital (Nabi and Liñán, 2011).

Policy makers, researchers and practitioners increasingly recognise the significant role that higher education plays in nurturing enterprising graduates and graduate entrepreneurs (Harrison and Leitch, 2010; Herrmann et al., 2008). The World Economic Forum (WEF) suggests that considering the power that education has in developing skills and attitudes as well as generating an entrepreneurial mind-set, it becomes clear that entrepreneurship education (EE) is important (Wilson et al., 2009). Researchers argue that the purpose of EE is mainly threefold (Blenker et al., 2011; Gibb, 2007; Packham et al., 2010; Rae et al., 2012; Solomon et al., 2002):

a) To develop an entrepreneurial mind-set and enterprising skills including creativity, innovativeness, problem solving, opportunity identification, opportunity evaluation, leadership and proactive action in responding to changes;

b) To build up a wide understanding of entrepreneurship and its application to a diversity of settings; and

c) To develop capabilities and confidence to start, operate and grow an enterprise effectively.

1.1.1 Rationale of the Study and Research Problems

An established body of studies suggests that the intention to start a venture is critical to entrepreneurship (Bird, 1988; Krueger JR et al., 2000; Liñán et al., 2011a; Shinnar et al., 2012). Entrepreneurial intention (EI) is a self-acknowledged conviction of a person who intends to start a business and consciously plans to do so at a certain point (Forbes, 1999; Katz, 1992; Learned, 1992; Rotefoss and Kolvereid, 2005; Thompson, 2009). The Global Entrepreneurship Monitor (GEM) finds that EI is an important indicator of entrepreneurship in a society (Kelley et al., 2012). This is because individuals with high EI are more likely to start a business than those with low EI (Matlay, 2008; Ajzen, 2002; Henley, 2007). Thus, understanding EI is important for understanding entrepreneurial behaviour (Shane and Venkataraman, 2000). Based on the works of Shapero and Sokol (1982) and Ajzen (1991), EI is parsimoniously a function of perceived desirability (i.e. 'is it a good thing for me to do?') and perceived feasibility, (i.e. 'could I do it if I wanted to?'). However, scholars indicate that there is little knowledge about determinants of perceived feasibility and desirability of entrepreneurship (Hindle, 2009; Davidsson, 2004; Schlaegel and Koenig, 2014).

In exploring the determinants of EI, prior studies investigate individual factors, contextual factors and EE in isolation from each other (Shook, et al., 2003; Fayolle and Liñán, 2014). Further, there are a number of issues identified in the literature: First, studies on the relationship between EE and EI have yielded mixed and inconsistent conclusions (Bae et al., 2014; Küttim et al., 2014; Williamson et al., 2013). Some studies find that EE has a positive impact on EI (Farashah, 2013; Matlay, 2008; Peterman and Kennedy, 2003; Solesvik et al., 2013; Souitaris et al., 2007; Wilson et al., 2007; Zhang et al., 2013; Zhao et al., 2005) whilst others observe that EE has either no discernible influence or a negative influence on EI (Cox et al., 2002; do Paço et al., 2013; Marques et al., 2012; Oosterbeek et al.,

2010; Packham et al., 2010; Tegtmeir, 2012; von Graevenitz et al., 2010; Walter et al., 2011). The inconsistent findings have prompted scholars to suggest that since EE and business start-up support by government and other stakeholders are investments, empirical research is required to clarify how these initiatives impact EI (Nabi et al., 2010; Rae et al., 2012).

Second, there is a shortage of studies examining the effect of institutional factors on EI. Few existing studies have investigated the effects of institutions on the rate and type of entrepreneurial activity in a country based on institutional theory. However, studies investigating the effects of institutions at micro-level, i.e. individual cognition and behaviour, are rare (Bruton et al., 2010; De Clercq et al., 2011; Schlaegel and Koenig, 2014; Wicks, 2001). Fayolle and Liñán (2014) argue that "future research should also assess the impact of culture, regulatory systems and legal policies on intentions" (p.664). Similarly, Schlaegel and Koenig (2014) claim "it is meaningful for future research to further explore the contingent roles of the formal institutional context (laws, regulations, and policies) as well as the informal institutional context (culture, norms and values)…to offer great insights into the context-specific development of EI" (p.320).

Third, there is a shortage of studies investigating the combined effect of EE, individual and contextual factors on EI (Fayolle and Liñán, 2014; Rideout and Gray, 2013; Solesvik et al., 2013; Wang and Chugh, 2014). Moreover, the extant literature indicates a lack of research proposing and validating integrated models in relation to determinants of EI (Fayolle and Liñán, 2014; Krueger, 2009; Shook et al., 2003). This limits understanding of the interplay among various EI determinants. The following quotes evidence this hitch in the EI literature:

> *"With regard to theoretical limitations, the EI literature has not resulted in cumulative knowledge because the various perspectives have been pursued in isolation from other perspectives. Future work on EI should*

> *attempt to integrate and reduce the number of alternative models."* Shook et al. (2003, p.386)
>
> *"(on the future of entrepreneurial intention research)…as Krueger (2009) suggests, the construct of intentions appears to be deeply fundamental to human decision making, and as such, it should afford us multiple fruitful opportunities to explore the connection between intent and a vast array of other theories and models that relate to decision making under risk and uncertainty. This view opens the door for the development of integrative and more sophisticated theoretical models of the entrepreneurial process…New research may consider interaction…moderation…and mediation effects."* Fayolle and Liñán (2014, p.664)

Lastly, the literature also shows that research on the determinants of EI is mainly conducted in developed countries (Audretsch, 2007; Bruton et al., 2010; Fayolle and Liñán, 2014; Hoskisson et al., 2011; Iakovleva et al., 2011; Nabi and Liñán, 2011). One way to develop an in-depth understanding of EI is to execute studies in a diversity of national contexts.

In response to the identified issues in the extant literature, this study seeks to examine the determinants of EI at individual and institutional levels. Additionally, the study seeks to explore whether EE affects the relationships between individual and institutional factors and EI. There are two reasons for this investigation. Firstly, EI is incorporated in many studies even when the research coverage has not been extended to EE (BarNir et al., 2011; Birdthistle, 2008; Davey et al., 2011; Levenburg et al., 2006; Wu and Wu, 2008). For instance, Franke and Luethje (2003) find that environmental and individual factors are positively associated with EI. It is worthwhile to explore the role EE plays in this process. Secondly, based on reviews of extant literature, scholars indicate the need to explore if, why and how EE's impact may differ in different learning contexts and with different individuals (Rideout and Gray, 2013; Wang and Hugh, 2014; Cope, 2005; Fairlie and Holleran, 2011). It would be enlightening to study EE and its interaction with contextual and individual factors.

1.1.2 Aims and Objectives of the Study

Based on the literature review, and having EE as the kernel, this study aims to a) examine individual and institutional determinants of EI; and b) explore the effect of EE on the relationships between the above determinants and EI. Specifically, the current research's objectives are:

- To examine the influence of institutional factors on entrepreneurial intention;
- To investigate the influence of individual factors on entrepreneurial intention; and
- To explore and examine if entrepreneurship education has an intervening role on the effects of institutional and individual factors on entrepreneurial intention.

1.2 Contributions to Knowledge

This study has four major contributions to the field. The first and most important contribution relates to the effect of EE on EI. The extant literature has mixed conclusions; while some studies find that EE has positive effects on EI, others report negative effects. This study contributes to knowledge by establishing that the effect of EE on EI should be evaluated in conjunction with factors at individual and institutional levels. The study demonstrates that effectiveness of EE significantly mediates the effect of individual and institutional factors on perceived feasibility and desirability of entrepreneurship. This means that individual and institutional factors influence the uptake, interest, effort and the consequent performance in EE to develop entrepreneurship knowledge and skills. Entrepreneurship knowledge and skills in turn influence the perception that starting, managing and growing a business is feasible and desirable. This ultimately leads to EI.

Secondly, scholars indicate that research on the influence of EE, individual and contextual factors on EI has grown in isolation from each other. This has prompted calls for integrated models that help to examine how factors from the three angles are related in shaping EI. Scholars have argued that focusing on only one angle often leads to incomplete understanding and sometimes inconsistent conclusions. The current study contributes to knowledge by developing and empirically validating a multi-level conceptual framework about the effect of EE on the relationships between EI and its institutional and individual determinants.This integrated model is unlike many prior studies and models that focus on one or two sets of factors. The current research has identified that effectiveness of EE comprises perceived learning from the module, experiential learning and utilisation of resources. Individual factors consist of risk taking propensity, locus of control, need for achievement, and prior entrepreneurial exposure. Lastly, institutional factors comprise normative, cognitive and regulatory institutions. The validated integrated model shows that individual and institutional factors are the primary predictors of perceived feasibility and desirability of entrepreneurship. The role of EE is to mediate these relationships. This means that individual and institutional factors exert their effects on EI not only through their influence on perceived feasibility and desirability but also through their influence on effectiveness of EE. By developing entrepreneurial capabilities and clarifying the benefits of entrepreneurship, EE enhances perceptions that business start-up is feasible and desirable. This ultimately leads to EI.

Thirdly, scholars indicate that generally most studies in entrepreneurship, graduate entrepreneurship and EI in particular, are conducted in developed countries, which limits the generalisability of research findings. The consequence of scant research in developing countries is that researchers, policy makers, educators and other

stakeholders do not have adequate information that takes into account local contexts for research, practice and policy direction. By conducting the research in Zambia, the study confirms the applicability of the basic EI model as well as the influences of institutional factors, individual factors and EE on EI in a developing country context.

The last contribution is the further development and validation of the constructs of effectiveness of EE. Extant literature indicates that the link between pedagogical approaches and EI is not clear. Rideout and Gray (2013) indicate that "clearly there is also need for development of pyschometrically sound measures to support efforts in…entrepreneurship education research" (p.348). In the literature, only Souitaris et al. (2007) developed and validated constructs of effectiveness of EE, including dimensions of perceived learning and utilisation of resources. The present study expanded the constructs by containing perceived experiential learning (practical approaches). This allows the measurement of effectiveness of EE to go beyond the education content (i.e. learning from the module) and embrace experiential learning (i.e. learning by doing). This is important because EE delivery is widely criticised for being dominated by lectures and seminars; EE delivery should include experiential learning to be relevant and practical. Practical approaches to delivery of EE are positively assocated with EI and its attitiudinal antecedents.

1.3 Summary of the Thesis Contents

This thesis comprises ten chapters including the introduction. A general summary of the content of each of these chapters is provided here.

Chapter 2 - discusses Zambia's history and economy as a context for the current research. Specifically, it discusses the structure of the Zambian economy and its

challenges. It also covers the institutional framework that supports business start-up and SMEs. Lastly, it highlights graduate unemployment, graduate entrepreneurship, and the status of EE in higher education in Zambia.

Chapter 3 - reviews literature by providing a historical and theoretical overview of entrepreneurship. Specifically, it highlights the classical, psychological and sociological theoretical approaches to understanding the role and determinants of entrepreneurship. Lastly, it highlights the processes and stages of entrepreneurship.

Chapter 4 - reviews literature on the role of EI in the entrepreneurial process and shows the evolution of the EI models. Specifically, it focuses on the theory of planned behaviour, Shapero's entrepreneurial event model, and social cognitive theory as the foundation for understanding EI and its determinants.

Chapter 5 - reviews literature on the nature, importance and effects of EE on EI. It highlights the global pressures moulding the need for more entrepreneurship in society. Then it discusses the nature as well as types of enterprise and entrepreneurship education.

Chapter 6 - develops the conceptual model and hypotheses to examine a) the effects of institutional factors on perceived feasibility and desirability of entrepreneurship, b) the effects of individual factors on perceived feasibility and desirability, c) the intervening role of EE on the effects of individual and institutional factors on perceived feasibility and desirability, and d) the effects of perceived feasibility and desirability on EI.

Chapter 7 – focuses on the justification and implementation for the adopted research design. It discusses the population, sampling and data collection procedures; analyses validity and reliability of quantitative research measures;

and, inspects common methods bias. To avoid bias from utilising one particular methodology, this study purposely employed a concurrent triangulation strategy. This was intended for model testing and in-depth understanding of research phenomena.

Chapter 8 - synthesises results of semi-structured interviews in Zambia. The findings of the interviews are discussed in relation to existing literature. Lastly, it explains the implications of the evidence on the conceptual model.

Chapter 9 - quantitatively examines the effects of individual and institutional factors on EI. It then reports and discusses results on how EE mediates the effects of individual and institutional factors on EI. The findings of the survey are discussed in relation to qualitative results and existing literature.

Chapter 10 - highlights the major research findings and conclusions, contributions to knowledge as well as implications to policies and practices. It also analyses the limitations of the current study and on this basis recommends future research directions.

CHAPTER 2: RESEARCH BACKGROUND - ZAMBIAN CONTEXT

2.0 Introduction

The preceding chapter provides an overall introduction, objectives and scope of the current research. The study aims to investigate the effects of entrepreneurship education (EE) on the relationships between entrepreneurial intention (EI) and its determinants. Most studies on the determinants of EI are conducted in developed countries, and this limits the generalisability of findings elsewhere (Bruton et al., 2010; Fayolle and Liñán, 2014; Hoskisson et al., 2011; Nabi and Liñán, 2011). This chapter on the Zambian context highlights the history of the country and its culture, the structure of the economy and its challenges, youth and graduate unemployment, as well as the status of EE in higher education.

2.1 Zambian History and Culture

According to the Central Statistical Office (CSO), Zambia has a population of 13.092 million people, 2.8% population annual growth rate and a population density of 17.4 per square kilometre (CSO, 2013). As indicated in Table 2.1a, about 60% of its population are based in the rural areas and 40% in the urban areas. These proportions have remained stable over the last 10 years.

Table 2.1a - Zambian Population by Region

Census Year	Population by Region		
	Total	Rural	Urban
2000	9,885,591 (100%)	6,458,729 (65.3%)	3,426,862 (34.7%)
2010	13,092,666 (100%)	7,919,216 (60.5%)	5,173,450 (39.5%)

Source: (CSO 2013) 2000 and 2010 Population Censuses

With a total area of 752,614 square kilometres, Zambia is a landlocked country in central southern Africa. It shares its borders with eight other countries (see map in Appendix 2.1). As indicated in Table 2.1b, Zambia used to be a British colony until

October 1964 when it became independent. With a largely tropical climate, the country has vast arable land, mineral and water resources. From about 1970 to 1991, Zambia pursued socialist economic policies through which most economic activities were undertaken by the state. Since 1992, the country started to adopt open market policies.

Table 2.1b - Chronology of Zambian History

Era	Period, Year	Major Events in the History of Zambia
Pre-Colonial	1100	Bantu migration displaces indigenous San peoples.
	1200	Tonga and Ila peoples migrate from the east.
	1500s–1750	Fragments of the Luba and Lunda empires in Congo migrate to Zambia, forming new kingdoms; the Bemba, Bisa, Lovale, Kaonde, Lamba, Lunda, and Lozi emerge.
	1851	First visit to area by the Scottish missionary and explorer David Livingstone.
Colonial	1889–90	British South Africa Company (BSA) establishes control over Northern Rhodesia (present day Zambia)
	1924	BSA cedes control over Northern Rhodesia to British Colonial Office.
	1953–63	Federation is established among three colonial territories of Northern Rhodesia (Present day Zambia), Southern Rhodesia (Present day Zimbabwe) and Nyasaland (present day Malawi)
	1962	Civil disobedience accelerates moves toward independence
Independence	1964, October 24	Independence (Northern Rhodesia becomes Zambia)
One Party State & Socialist Agenda	1972, December	One Party Declaration is enacted (2nd Republic, largely Socialist economic agenda)
	mid 1970s -1980s	Copper prices plunge; high oil prices; and national debt increases.
	1985	Zambia adopts comprehensive economic (structural) adjustment program (SAP) with International Monetary Fund and the World Bank
	1986–87	Food shortage riots.
	1987, May	The Structural Adjustment Program (SAP) is abandoned unilaterally by Zambia.
	1989, June	New SAP is initiated; abolishes price controls, except on staples
	1990, June	Food shortage riots.
	1990, June	Reports of an attempted coup against Kaunda precipitate widespread public celebration.
	1990, July	Movement for Multiparty Democracy (MMD) coalition is established.
Multipartism	1990, December	Parliament approves multiparty option (Third Republic Begins).
	1991, June	Reintroduction of price controls by the United National Independence Party (UNIP) weakens SAP
	1991, September	Adjustment programme is suspended again
Free Market Economy Consolidation	1991, October 31	MMD wins, and Frederick Chiluba is elected president (Consolidation of free market economy begins)

Adapted from: Taylor D.S (2006), Culture and Customs of Zambia, Greenwood Press,Westport, USA, p.xv

Ethnicity, Culture and Religion in Zambia

Zambia stands out in Africa as one of the most peaceful countries. In its early years as an independent state, Zambia became a regional bulwark against imperialism and colonial domination. Today, it is looked upon as an important example of Africa's democratisation with both incredible success as well as some

notable setbacks. The country is also one of the most urbanised in sub-Saharan Africa, a phenomenon that began with the colonial era gravitation toward the central mining regions of Zambia's Copperbelt. As a result of this urban influx, Zambia's diverse ethnolinguistic groups (73 major ethno-linguistic communities as indicated in Table 2.1c) interact regularly. Moreover, many contemporary Zambian households, especially those in cities, are also exposed to western cultures via the media. In other words, notions of tradition and modernity combine in interesting ways in contemporary Zambia (Taylor, 2006).

Table 2.1c - Zambian Population by Ethnolinguistic Community

Ethnolinguistic Groups	Population by Ethnicity	Percent
Black Zambians - 73 tribes/dialects	12,870,814	98.3%
Other Black Africans	202,348	1.5%
Whites (mainly British, American and Other Europeans)	7,898	0.06%
Asian (mainly Indians, Chinese)	11,606	0.09%
Totals	13,092,666	100.0%

Source: (CSO) 2010 Census of Population and Housing

National culture consists of the underlying value systems that are specific to a group or society and motivate individuals to behave in certain ways (Hofstede, 1984; Hofstede, 2014). Hofstede's seminal cross-cultural comparison shows six dimensions of cultures: individualism, uncertainty avoidance, power distance, masculinity, pragmatism and indulgence (Busenitz and Lau, 1996; Shinnar et al., 2012). Hofstede (2014) evaluates each country's culture based on a scale of 1 (lowest) to 100 (highest) on each of the six dimensions. A score of 50 on any dimension means that such a country is difficult to classify with respect to that dimension (Shinar et al., 2012; Siu and Lo, 2013). Busenitz and Lau (1996) and Shinnar et al. (2012) suggest that individualistic, masculine cultures ranking high on power distance and low on uncertainty avoidance would create favourable environments for entrepreneurship and potentially lead to a higher proportion of self-employment.

In relation to Zambia, the score on the individualism dimension is 35, reflecting a collectivistic society[1] (Hofstede, 2014). This means that people have long-term commitment to the groups they belong to. These groups may be immediate and extended family; they could also be other extended social and organisational relationships. Loyalty in a collectivist culture is paramount, and overrides most other societal rules and regulations. This means that the approval or dispproval of family, friends and others is crucial to decision-making. Scholars indicate that emphasis on group comformity may be negatively associated with rates of entrepreneurship (Hofstede, 1984; Shinnar et al., 2012).

Second, with a score of 40 on the dimension of masculinity, Zambia is considered as a feminine[2] society (Hofstede, 2014). In feminine countries the focus is on "working in order to live". Managers strive for consensus, while people value equality, solidarity and quality in their working lives. Scholars indicate that such societies are likely to have low rates of entrepreneurship (Shinnar et al., 2012). This is because the focus is more on wellbeing and less on achievement and success.

[1] Individualism as a cultural dimension addresses the degree of interdependence a society maintains among its members. It has to do with whether people's self-image is defined in terms of "I" or "We". In individualist societies people are supposed to look after themselves and their direct family only. In collectivist societies, people belong to 'in groups' that take care of them in exchange for loyalty; individual autonomy and interest are valued less.

[2] With respect to masculinity, a high score indicates that the society will be driven by competition, achievement and success, with success being defined by the winner/best in field – a value system that starts in school and continues throughout organisational behaviour. A low score (feminine) means that the dominant values in society are caring for others and quality of life. A feminine society is one where quality of life is the sign of success and standing out from the crowd is not admirable. The fundamental issue here is what motivates people, wanting to be the best (masculine) or liking what you do (feminine).

Third, Zambia scores at an intermediate level on the dimension of power distance[3] (score of 60), which means that it has a hierarchical society (Hofstede, 2014). Hierarchy in society and organisations is seen as reflecting accepted inherent inequalities, centralisation in popular, subordinates expecting to be told what to do and the ideal boss being a benevolent autocrat. Scholars indicate that the powerful individuals in such societies are more likely to have high confidence and willingness for start-up (Busenitz and Lau, 1996).

Fourth, Zambia scores an intermediate 50 on the dimension of uncertainty avoidance[4]. This means that no generalisation can be made about whether or not the society has a tendency to embrace or shun courses of action that involve uncertainty, risk taking and innovation (Hofstede, 2014; Shinnar et al., 2012). Fifth, a low score of 30 on the pragmatism dimension means that Zambian culture is more normative than pragmatic[5] (Hofstede, 2014). People in such societies have a strong concern with establishing the absolute truth; they are normative in their

[3] Power distance is a dimension that deals with the fact that all individuals in societies are not equal – it expresses the attitude of the culture towards these inequalities. Power distance is defined as the extent to which the less powerful members of institutions and organisations within a country expect and accept that power is distributed unequally.

[4] Uncertainty Avoidance is a dimension concerned with how a society deals with the fact that the future can never be known: should one try to control the future or just let it happen? This ambiguity brings with it anxiety and different cultures have learnt to deal with this anxiety in different ways. The extent to which the members of a culture feel threatened by ambiguous or unknown situations and have created beliefs and institutions that try to avoid these is reflected in the uncertainty avoidance score.

[5] Pragmatism describes how every society has to maintain some links with its own past while dealing with the challenges of the present and future, and societies prioritise these two existential goals differently. Normative societies who score low on this dimension, for example, prefer to maintain time honoured traditions and norms while viewing societal change with suspicion. Those with a culture which scores high, on the other hand, take a more pragmatic approach: they encourage thrift and efforts in modern education as a way to prepare for the future.

thinking. They exhibit great respect to traditions and the propensity to achieve short-term results.

Lastly, the relatively low score of 42 on the indulgence[6] dimension indicates that the Zambian culture can be classified as a restraint one (Hofstede, 2014). Such societies have a tendency to be cynical and pessimistic. Also, in contrast to indulgent societies, restrained societies do not put much emphasis on leisure time; they control the gratification of their desires. People with this orientation have the perception that their actions are restrained by social norms and feel that indulging themselves is somewhat wrong.

Religion in Zambia

Zambia has a religiously plural environment that includes world religions, such as Christianity, Islam and Hinduism (Taylor, 2006). The vast majority of its population, however, practice various denominations of Christianity. Christianity arrived in the country in the 1850s but did not establish a solid foothold until the early 1900s when missionary activity proliferated in conjunction with the establishment of colonial control over the territory.

Table 2.1d - Zambian Population by Religion

Description	Catholic	Protestant	Muslim	Hindu	Buddist	Bahai Faith	Other	None	Total*
Number	2,532,858	9,436,231	61,412	4,383	9,623	3,891	253,621	224,295	**12,526,314**
Percent	20.2%	75.3%	0.5%	0.03%	0.1%	0.03%	2.0%	1.8%	**100%**

*Only Individuals above the age of 5 years are included

Source: CSO (2013)

[6] Indulgence is concerned with the extent to which people try to control their desires and impulses, based on the way they were raised. Relatively weak control is called “indulgence” and relatively strong control is called “restraint”. Cultures can, therefore, be described as indulgent or restrained.

As depicted in Table 2.1d, Christianity claims 95.5% of the population as adherents (CSO, 2013). Therefore, although many of the traditional beliefs survive (and may co-exist with Christianity), on the whole, protestant perspectives influence attitudes to work and career in the majority of the population (Shinnar et al., 2012).

2.2 Structure of Zambia's Economy and Its Challenges

With an economy of US$22.38 billion in gross domestic product (GDP), Zambia recorded GDP growth of 6.4 percent in 2013 from 2012 (Bank of Zambia, 2014; World Bank, 2014). Over the medium to long term, agriculture, mining, manufacturing, tourism, energy and construction are expected to be major drivers of GDP growth and job creation (National Budget, 2014). Between 1961 and 2013, the annual GDP growth rate averaged 2.9 percent; it reached an all-time high of 16.7 percent in 1965 and a record low of -8.6 percent in 1994. As depicted in Table 2.1e, between 2004 and 2014, Zambia's economy has grown more rapidly due to expansion of the copper mining industry and diversification into the agricultural sector.

Table 2.1e - Zambia GDP Annual Growth Rate 2004 to 2014

Source: (Bank of Zambia, 2014)

However, the widespread poverty remains to be Zambia's main economic challenge (Chigunta, 2002; Chigunta et al., 2005; World Bank, 2013), primarily because of fast population growth and youth unemployment. Consequently, Zambia continues to be one of the poorest countries in the world with 60 percent of the population living below the poverty line (World Bank, 2014).

Economic development consists of changes in the quantity and character of economic value added (Lewis, 1954). These changes result in greater productivity and increasing per capita incomes. They often coincide with migration of labour across different economic sectors in the society. For instance, labour may migrate from primary and extractive sectors to the manufacturing sector, and eventually, services sector (Naudé et al., 2008). According to the GEM and the World Economic Forum (WEF), predominant economic and entrepreneurial activities may differ based on whether an economy is factor-driven, efficiency-driven or innovation-driven (Kelley et al., 2012; Wilson et al., 2009).

The factor-driven economies are usually dominated by subsistence agriculture and extraction businesses, with a heavy reliance on labour and natural resources (Kelley et al., 2012). As extractive industries develop, this triggers economic growth, prompting surplus population from agriculture to migrate toward extractive and labour-intensive sectors, which are often located in specific regions. The resulting oversupply of labour in those regions compels unemployed individuals to start their own small businesses or engage in self-employment activities in order to survive and make a living. The GEM (2012) survey notes that it is typical for factor-driven economies to report higher proportions of informal (unregistered) businesses; individuals are pushed into the entrepreneurship trajectory because other options for work are absent i.e. engaging in self-employment is the only means for livelihood and survival (Kelley et al., 2012; Williams, 2009).

The efficiency-driven economies are characterised by industrialisation and reliance on economies of scale, and the dominance of capital-intensive large organisations (Acs and Szerb, 2012). Depending on how well developed the financial sector is, such economies would also spur opportunities for development of small-scale and medium-sized manufacturing enterprises, as part of the supply chain to service large businesses (Hessels and van Stel, 2011). Thus, compared to factor-driven economies, efficiency-driven economies usually have lower proportions of informal (unregistered) businesses and higher proportions of small-scale manufacturing and service sector firms (Kelley et al., 2012).

The innovation-driven economies have industrial activities characterised by sophistication and variety as well as intensity in knowledge, research and development. Such economies have a large contribution of the service sector to GDP (Martinez et al., 2010). This is in response to the needs of an increasingly affluent population; high demand for services is normally expected of a high-income society. As long as financial and other institutions are able to accommodate and support opportunity-seeking activities, innovative entrepreneurial firms may emerge as significant drivers of economic growth. In this way, entrepreneurial firms may also operate as 'agents of creative destruction' (Schumpeter and Backhaus, 1934; Schumpeter, 1934). Compared to factor-driven and efficiency-driven economies, innovation-driven economies usually have lower proportions of informal (unregistered) businesses and higher proportions of knowledge intensive and service sector firms (Kelley et al., 2011). Additionally, most entrepreneurs in innovation-driven economies are drawn into business start-up not for survival but to exploit opportunities to increase their incomes or independence (Gilad and Levine, 1986; Martínez et al., 2010; Orhan and Scott, 2001; Williams, 2009).

Table 2.1f - Structure of Zambia's Economy in 2013

Sectors	Share of GDP	Share of Employment
Agriculture (forestry, agric., fisheries, hunting)	19.5%	66.4%
Mining and Quarrying	10.0%	8.1%
Industry (construction and manufacturing)	27.3%	0.9%
Services	43.2%	24.6%
Totals	**100.0%**	**100.0%**

Source: (African Economic Outlook, 2014; CSO, 2013; World Bank, 2014)

In light of the foregoing characteristics of economic and entrepreneurial activity, Zambia's economy should be categorised as factor-driven. This is because, as the evidence in Table 2.1f shows, the primary sectors (mining and agriculture) have the highest contribution of 74.5% to overall employment. Yet in relation to formal employment, the CSO (2011) data indicates that agriculture and mining only contribute 12.1% and 8.1%, respectively. This means that the majority of the employment in agriculture is informal. In addition, the country is heavily dependent on forex earnings from mining exports (75.2%). In relation to the composition of firms in the economy, 90% operate informally i.e. they are not formally registered. This has many implications. Firstly, informal firms do not make a contribution to the government tax revenue. Secondly, informal enterprises do not make any financial contributions to social security schemes. Thirdly, informal firms may not employ individuals within the Law's minimum requirements in terms of conditions of work and service. Lastly, unregistered businesses lack the basis for developing track records and, therefore, may not access banking services and other opportunities. This constrains their growth in the economy (Calice et al., 2012; De Soto, 2003; Gilbert, 2002; Tendler, 2002; Woodruff, 2001). No wonder, the majority of individuals (78%) who start businesses in Zambia either use personal savings or borrow funds from family members (Bank of Zambia FinScope, 2010).

From the forgoing discussion on the structure of the Zambian economy, there is clearly a demand for formalised entrepreneurial activity. This would enable

capable entrepreneurs to harvest the benefits. Therefore, drivers of entrepreneurial intention and activity at individual and institutional levels are to be examined. This would enable scholars, policy makers and practitioners to understand the role that different stakeholders can play in increasing formal entrepreneurial activity (De Clercq et al., 2011; Gartner, 1989a; Hoskisson et al., 2011; Rideout and Gray, 2013).

2.2.1 Diversification Efforts and Entrepreneurship

Despite the Zambian economy growing at an annual average of 6.1% in the last 10 years, there are many challenges. These include high unemployment, over dependence on the mining sector for foreign exchange earnings (75.2%) and a large informal sector (World Bank, 2013). The informal sector is largely composed of micro and small businesses whose performance is undocumented. Therefore, in the medium to long term, it is necessary to focus on mechanisms to increase participation of Zambians in the formal economy. This resonates with an observation by the Zambian Finance Minister in the quote below:

> *"…Alexander Chikwanda, Minister of Finance, said '…the economy has remained strong and stable. The Zambian economy's growth is among the ten fastest in the world and among the four fastest in Sub-Saharan Africa… We need to intensify efforts aimed at enhancing Zambians' participation in the formal economy…in the long term, we will need to increase our resilience to shocks by accelerating the diversification of the economy away from copper to ensure resilience to global financial shocks…lack of significant participation of Zambians in the formal economy has resulted in the foreign exchange market being controlled by a cartel of foreign companies.' "* (Quote from Sinyangwe, Chiwoyu, 2014, Post Newspaper accessed online www.postzambia.com, Friday 21 March 2014, 14:40 hours United Kingdom).

The Copperbelt, through its mining and related activities, has produced wealth for the country, contributing up to 52% (in 1954) to GDP. The mines employ people, give contracts to local firms, and in the past provided social and economic infrastructure (ICMM, 2014). However, from the mid-1970s, the sector has declined considerably with a recent contribution to GDP of 10% only (CSO, 2013).

While in 1976 the sector had 62,000 employees, between 2008 and 2011, the sector's employment stagnated between 30,000 and 53,326 (CSO, 2011). Most of the mines are employing fewer people because of efficient mechanisation/automation. Moreover, some of the mines are expected to shut down after 2017 when some copper deposits are projected to deplete (Mwamba et al., 2010).

These conditions are particularly compelling to central and local governments, learning institutions and other stakeholders to define the role of each stakeholder in efforts to address high unemployment and achieve diversification. Economic diversification has been a recurrent theme since Zambia's independence in 1964. The combination of low copper prices in the 1970s and 1980s and the rising oil prices created a foreign exchange problem for the country since most of the machinery, oil, and finished goods had to be imported (Lungu, 2008). This situation compelled the government to engage in strategies and programmes aimed at diversifying the economy from copper mining to agriculture, manufacturing, trading and tourism (Mwamba et al., 2010). Inspite of these efforts, participation of Zambian citizens in the formal economy is still low and dependence on Copper has continued; exports data for 2013 shows that non-traditional exports (NTEs) contributed 24.8% while copper contributed 75.2% (National Budget, 2014).

Scholars argue that one of the reasons for lack of major success in diversification has been the absence of a coordinated, sustained and holistic strategy to promote citizens' participation in entrepreneurship. Government policies from 1964 hitherto have not regarded entrepreneurship as a key ingredient to diversification (Lungu et al., 2007). What was not considered in the several diversification initiatives was a holistic approach that includes a combination of appropriate institutional

mechanisms for promoting entrepreneurship and development of entrepreneurial competencies for Zambians to take advantage of opportunities inherent in the economy. This would contribute to enhancing diversified formal employment generation (Lungu et al., 2007).

In a mixed economy, besides growth in foreign direct investment, state-owned enterprises and existing private-sector businesses, new venture creation also holds promise in both reducing unemployment and increasing diversification (Bremmer, 2009; Cook, 2008; Cook, 2010; Fallon et al., 2001; Lungu et al., 2007; The Economist, 2014; Wennekers and Thurik, 1999). It is hoped that once potential entrepreneurs are empowered through appropriate training and institutional support, the resulting enterprises would benefit the economy. The benefits would include diversified job creation, competitiveness improvement, more choice for consumers, increase in tax revenue for the government and wealth for the entrepreneurs themselves (Carree et al., 2002; Criscuolo et al., 2014; Wennekers and Thurik, 1999; Wennekers et al., 2005).

2.2.2 Challenges of Unemployment for the Youth

According to the Zambian census report on employment statistics, among the working age population, 57.4% are economically active and 42.6% are economically inactive[7] (Table 2.2A). Among the economically active individuals, 12.3% are unemployed and 87.7% are employed (Table 2.2B). Furthermore, the status of those in employment in Table 2.2C indicates that the majority are either self-employed (44.1%) or unpaid family workers (32.9%). The status of employment figures further show that 22.3% are employees and the proportion who are employers is trivial (0.7%), suggesting a need to consider mechanisms to promote entrepreneurship at a high level.

[7] **Labour Statistics Terminology (CSO, 2013; ILO, 1993)**

Economically active population (labour force) - is the working age population that is available for work irrespective of whether they are employed or not.
Economically inactive population- working age population but outside the labour force (e.g. full-time students, full-time homemakers or housewives and those not available for work for other reasons such as old age and illness).
Unemployed – persons without work but actively looking for work and/or willing to work.
Employee - a person who works for a public or private employer and receives remuneration in wages, salaries, commissions, tips, piece rates, or pay in kind.
Self-employed - a person who operates his or her own economic enterprise or engages independently in a profession or trade, and hires no employees.
An unpaid family worker - a person who works without pay in an economic enterprise operated by a related family member of the same household (including peasant farmers).
Employer - a person who operates his or her own economic enterprise or engages independently in a profession or trade, and hires one or more employees.

Table 2.2 - Unemployment Challenges in Zambia

A.	Composition of the Working Age Population		
Age Group	Woking Age Population	Economically Inactive	Economically Active
≤19	2,386,857	1,866,226	520,631
20-24	1,117,476	451,366	666,110
25-29	1,006,244	258,136	748,108
30-34	800,770	161,873	638,897
35-39	647,813	117,373	530,440
40-44	447,584	77,560	370,024
45-49	354,989	64,300	290,689
50-54	270,254	56,236	214,018
55-59	184,828	44,270	140,558
60-64	161,875	46,340	115,535
65+	336,332	140,800	195,532
Totals	**7,715,022**	**3,284,480**	**4,430,542**
Percentage	**100.0%**	**42.6%**	**57.4%**

B.	Composition of the Economically Active Population			
Age Group	Economically Active	Employed	Unemployed	Percent Unemployed
≤19	520,631	416,486	104,145	20.0%
20-24	666,110	513,734	152,376	22.9%
25-29	748,108	643,955	104,153	13.9%
30-34	638,897	577,219	61,678	9.7%
35-39	530,440	487,876	42,564	8.0%
40-44	370,024	344,306	25,718	7.0%
45-49	290,689	272,125	18,564	6.4%
50-54	214,018	202,063	11,955	5.6%
55-59	140,558	132,250	8,308	5.9%
60-64	115,535	109,614	5,921	5.1%
65+	195,532	187,424	8,108	4.1%
Totals	**4,430,542**	**3,887,052**	**543,490**	
Percentage*	**100.0%**	**87.7%**	**12.3%**	

* Rural unemployment is 7.5%, urban unemployment is 22.1%

C.	Classification of Employment Status				
Age Group	Total Employed	Employee	Unpaid Family Worker	Self-employed	Employer
≤19	416,486	21,972	301,259	92,611	644
20-24	513,734	99,875	222,101	189,362	2,396
25-29	643,955	184,674	183,828	270,810	4,643
30-34	577,219	175,396	136,262	260,556	5,005
35-39	487,876	138,219	112,202	232,857	4,598
40-44	344,306	90,155	80,145	170,614	3,392
45-49	272,125	64,943	66,602	137,965	2,615
50-54	202,063	44,583	50,762	104,685	2,033
55-59	132,250	22,181	35,144	73,492	1,433
60-64	109,614	11,495	32,379	64,766	974
65+	187,424	11,449	57,311	117,364	1,300
Totals	**3,887,052**	**864,942**	**1,277,995**	**1,715,082**	**29,033**
Percentage	**100.0%**	**22.3%**	**32.9%**	**44.1%**	**0.7%**

Source: (CSO, 2013)

The unemployment situation is severe for people under 35 years old. In fact, 77.7% of the unemployed are youth i.e. individuals who are less than 35 years old (CSO, 2013). The unemployment situation among the youth is so severe that there

is an urgent need for strategies to increase access to meaningful jobs and career alternatives. There is a need to design mechanisms to build up the young generation's capacity and provide resource access to enable them to start and manage businesses (Lungu et al., 2007). There is also a need to determine if any institutional barriers are preventing youth from participating in entrepreneurship (Agbor et al., 2012). Agbor et al. (2012) in their paper write:

> *"Africa's youth population…has been increasing faster than in any other part of the world. 200 million people in Africa fall into this category, making up 20 percent of the population, 40 percent of the workforce, and 60 percent of the unemployed on the continent…Youth in Africa hold great potential as drivers for economic growth through participation in labour markets and also as consumers. A young population can also be a resource that leads to entrepreneurship, innovation and supports governance and political reforms. However, a large youth population that is not gainfully employed can also be a liability (e.g high crime rate), further undermining growth prospects. Africa's youth present a formidable challenge that requires careful interventions. Deliberations at the 2011 African Union summit noted that high youth unemployment is an impending threat to stability in Africa. Africa must prioritise measures to harness the potential presented by the youth population and to mitigate their risks."* P.9

2.3 Institutional Support for Start-ups and SMEs

To support business start-ups and SMEs, the government over the years has tried several schemes, but none of them seems to be successful. As indicated earlier, the post-independence economic history of Zambia has been characterised by the dominance of copper mining and exports. The performance of the national economy has thus been closely linked to that of the mining sector. While the 1960s were characterised by high mineral output levels and high world metal prices, the oil price crisis of the early 1970s adversely affected the copper price. As a result, before the 1990s under various National Development Plans, one of the main objectives of the nation was to diversify the economy in order to reduce the dependence on the copper mining sector. Efforts at diversification included government's direct investment in various sectors through establishing state

owned enterprises. However, these were largely unsuccessful because of failure to establish robust mechanisms to keep such firms' operations at arms' length from the government and politicians (Lungu et al., 2007).

Furthermore, the diversification efforts also included the government taking the lead in providing financial services to Micro, Small and Medium-sized Enterprises (MSMEs). In the early 1980s, for example, the Bank of Zambia (BoZ) set up the Credit Guarantee Scheme as a means of encouraging private and government owned commercial banks to extend credit to small-scale industries. Other important organisations included the Small Industries Development Organisation, Village Industries Service, and the Small Enterprise Promotion Unit (Mauzu, 2000). Policymakers thought that banks did not extend credit to MSMEs because of their inability to raise adequate collateral. Thus these schemes relied on government and donor funds for loans and grants to MSMEs (Maimbo and Mavrotas, 2003). As a consequence, the schemes and enterprise support organisations were perceived as social development efforts for 'helping' the poor i.e. clients perceived such schemes as having charitable goals. No wonder borrowers treated loans from such schemes and the financial sector as if they were grants that need not be repaid (Mwiya, 2006; Siwale, 2006). Such schemes also had less emphasis on the need for borrowers or grantees to have business management and technical skills to ensure survival and success of their fledgling businesses (Lungu et al., 2007).

With the advent of the third republic in 1991 which ushered in a free market and liberalised economy, government privatised most of the surviving but largely unprofitable state owned enterprises. Efforts to diversify the economy and address high unemployment have included creating an enabling business environment to attract foreign direct investment. Ironically, foreign direct investment has mainly

been in the mining sector resulting in continued dependence of the economy on commodity sales. From the year 2000 onwards, several instruments have been employed by the government to support the MSMEs sector, including legal instruments, short and medium term plans (e.g. annual budgets) and policy statements. For example, since 2006 government has created enterprise support organisations such as the Zambia Development Agency (ZDA) and the Citizens Economic Empowerment Commission (CEEC) that administer start-up advisory services, proffer investment incentives and facilitate access to start-up capital. The National Technology Business Centre (NTBC) provides incubation services for innovation and technology based start-ups. In addition, a few non-government organisations (NGOs) provide support to start-up and fledgling businesses. Reports from the CEEC, the government organisation that offers start-up debt finance, indicate that among the nascent entrepreneurs who received support from 2007 to 2011, 58% were not repaying the loans (CEEC, 2012). Research is required to help stakeholders understand how the current institutional framework can improve for start-ups and SMEs.

The government now recognises that entrepreneurship skills and support services are important for entrepreneurship to become a viable career option (National Vision, 2030; Sixth National Development Plan, 2011-2015; MSMEs Policy 2008-2018). However, no nation-wide multi-level coordinated efforts exist to offer training for development of entrepreneurial skills. To generate useful and credible evidence based recommendations, research is required.

Ease of Starting and Doing Business in Zambia

Table 2.3 shows selected comparative data from the World Bank's ranking of 189 economies in terms of overall ease of doing business[8] and ease of starting a business[9]. The World Bank reports indicate that Zambia has recorded improvements in ease of starting a business over the last five years and its ranking is generally better than the average ranking of countries in sub-Sahara Africa. Specifically, for ease of starting a business, there was a significant improvement in Zambia's rank from 70 (2013) to 45 (2014). This was mainly due to the elimination of the minimum paid-in capital requirement at the time of starting up a business. It was also because the country raised the threshold for Value Added Tax registration from Zambian Kwacha 200,000 (i.e. US$36,000 per annum) to Zambian Kwacha 800,000 (i.e. US$150,000 per annum). However, as indicated in Table 2.3, many challenges for business start-up still remain. Firstly, the number of procedures required to complete formal registration of a new business (5 procedures) and the number of days (6.5 days) to complete registration of a new business are still higher than the best performing economy i.e. New Zealand, where the registration of a business only requires 1 procedure that can be completed within a half day. Secondly, the cost for registration of a new business is 26.8% of per capita income compared to the best performing economies i.e. Slovenia (0%), New Zealand (0.3%) and South Africa (0.3%). Thirdly, a business

[8] The World Bank (WB) ranks 189 economies in relation to their ease of doing business, from 1 – 189. A high rank on the ease of doing business index and ease of starting a business means the regulatory environment is more conducive to the starting and operation of a local firm. This index averages the country's percentile rankings on 10 topics, made up of a variety of indicators, giving equal weight to each topic. The 10 topics include: ease of starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting investors, paying taxes, trading across borders, enforcing contracts, and resolving insolvency.

[9] The ease of starting a business is determined based on: the number of procedures to register a business, days (time) to complete business registration, cost of business registration as a percentage of per capita income, and required paid-in minimum capital as a percentage of per capita income.

has to make tax payments 38 times annually, far more than the best performing economy e.g. 3 times in Hong Kong. Similarly, 183 hours per annum spent on tax compliance issues for a business is higher than the best performing economy i.e. United Arab Emirates at 12 hours.

Table 2.3 - Comparative Ease of Starting and Doing Business in Zambia

	Country and Regional Comparison 2014*									
Rank/Indicator	Zambia	Angola	Botswana	Lesotho	Namibia	Rwanda	South Africa	Average Sub Sahara Africa Rank	Average OECD Rank	Global Best Performer
Ease of Starting a Business (Global country rank)	**45**	**178**	**96**	**89**	**132**	**9**	**64**	**124**	**60**	**NZ(1),**
Number of procedures to register a business	5	8	9	7	10	2	5	8	5	NZ (1)
Number of days to complete business registration	6.5	66.0	60.0	29.0	66.0	2.0	19.0	29.7	11.1	NZ (0.5)
Business registration cost (% of income per capita)	26.8	130.1	1.2	11.4	17.7	4.4	0.3	67.4	3.6	SI(0.0), NZ (0.3)
Minimum paid-in capital for business registration (% of income per capita)	0.0	21.8	0.0	0.0	0.0	0.0	0.0	125.7	10.4	**NZ (0.0)
Overall Ease of Doing Business (Global country rank)	**83**	**179**	**56**	**136**	**98**	**32**	**41**	**142**	**29**	**NZ(3), SG (1)**
Ease of Paying Taxes (Global country rank)	**68**	**155**	**47**	**101**	**114**	**22**	**24**	**126**	**55**	**UAE (1), NZ (23)**
Number of tax payments per year	38	30	34	33	37	17	7	38	12	HK(3), NZ(8)
Number of hours spent on tax compliance per year	183	282	152	324	314	113	200	314	175	UAE (12), NZ(152)

* World Bank Doing Business ranking for 189 countries for 2014

** 112 economies globally have 0.0% paid in capital requirement

Note: NZ - New Zealand, UAE-United Arab Emirates, HK-Hong China, SI-Slovena, SG-Singapore

Source: World Bank's www.doingbusiness.org, accessed on 19 February 2014 16:00 hours, United Kingdom

Despite recording some improvements in the ease of starting and doing business, a number of challenges still remain. The World Bank's new business density index shows the number of new businesses per 1000 working age adults (15 to 64 year olds) in a country. In 2010, 2011 and 2012, the index in Zambia was dismal at 1.0, 1.2 and 1.4 respectively (World Bank, 2014). Based on the 2013 data, Zambia's new business density is a paltry 1.36 compared to New Zealand's 15.07, South Africa's 6.5 and Botswana's 12.3. On the other hand, Zambia's business death rate is higher at 23.5% compared to the Sub-Saharan Africa average of 16% (Herrington and Kelley, 2012; Peters, 2014). Therefore, it is necessary to explore

from the perspectives of would-be entrepreneurs and other stakeholders what improvements need to be made in the institutional framework to promote entrepreneurship.

2.3.1 Entrepreneurial Activity in Zambia based on GEM Surveys

Empirically, entrepreneurial activity can be measured differently in terms of relative share of economic activity accounted for by small firms, data on self-employment, number of market participants (competition) or indeed firm birth rates relative to death rates (Kelley et al., 2012; Carree et al., 2002). The GEM reports classify businesses in any economy into two categories: businesses less than 3.5 years old are classified as new businesses and those older than 3.5 years are classified as established businesses. Based on cross-sectional survey data from a sample of about 2000 individuals in the working age population for each selected country, the GEM reports the proportion of individuals involved in new business creation, closing a business and those who own established businesses. For example, in Table 2.4 below, in 2012, 15% of Zambians reported that they had recently started a new business, 4% indicated they owned an established business and 20% reported closing a business recently. The GEM data for 2010 and 2012 show a decline in the actual new business birth rate from 17% to 15% and a decline in the proportion of the population that owns and manages an established business from 10% to 4%, respectively. The established business ownership rate at 4% is much lower than the factor-driven economies average of 11%. To help understand the reasons for this decline in entrepreneurial activity, there is need to investigate relevant factors at individual level and in the entrepreneurial environment. This would enable stakeholders to make informed policy decisions and develop appropriate interventions (Herrington and Kelley, 2012; Kelley et al., 2011; Kelley et al., 2012; Martínez et al., 2010).

Table 2.4 - GEM Comparative Data on Entrepreneurial Activity in Zambia

Sample Results Reflect % of 18-64 year olds' Responses	New Business Birth Rate (≤3.5 yrs)		Established Business Ownership Rate (>3.5yrs)		Business Death Rate	
	2010	2012	2010	2012	2010	2012
Factor-Driven Economies						
Zambia (N=2039, N=2157)	17	15	10	4	24	20
Ghana(N=2447,N=2222)	25	23	36	38	26	16
Average(unweighted)	**12**	**13**	**13**	**11**	**13**	**13**
Efficiency-Driven Economies						
South Africa (N=3279,N=2928)	4	3	2	2	5	5
China (N=3677,N=3684)	10	7	14	12	6	4
Average(unweighted)	**5**	**6**	**8**	**8**	**4**	**5**
Innovation-Driven Economies						
United Kingdom(N=3000,N=2000)	3	4	6	6	2	2
United States(N=4000,N=5542)	3	4	8	9	4	4
Netherlands(N=3502,N=3501)	3	6	9	9	1	2
Average(unweighted)	**3**	**3**	**7**	**7**	**2**	**3**

Compiled from: (Kelley et al., 2011; Kelley et al., 2012)

Clearly, despite an improvement from 24% in 2010 to 20% in 2012, Zambia's business death rate (20%) is much higher than the business birth rate (15%). The net result is a reduction in the number of businesses in the economy. In addition, the business death rate of 24% in 2010 and 20% in 2012 for Zambia is higher than the factor-driven economies average of 13% in the same period. This suggests that a comprehensive detailed study may be necessary to understand the relevant factors at individual and institutional levels to promote entrepreneurship in Zambia.

2.4 Graduate Unemployment and Graduate Entrepreneurship

This section shows Zambian statistics on graduate unemployment and graduates' involvement in entrepreneurship.

2.4.1 Graduate Unemployment

The 2010 census data indicates that unemployment in Zambia affects both university/college graduates and non-graduates alike. In fact, unemployment

among university and college graduates is 20.8% (CSO, 2013). Moreover, 72.3% of unemployed graduates are below age 35. This means that unemployment is higher among the youth graduates. Increase in enrolment at tertiary institutions has led to more graduates entering the labour market than the available job opportunities; there is an increasing number of educated youth confronted with rising unemployment. Youth unemployment represents an enormous cost to society in terms of lost potential for economic growth, negative returns on investment in education and increase in vices such as crime (Agbor et al., 2012). It is, therefore, necessary to investigate the determinants of EI in Zambia.

2.4.2 Graduate Entrepreneurship

Graduate entrepreneurship is concerned with the extent to which graduates as products of university education engage in new venture creation or self-employment (Nabi and Holden, 2008; Nabi and Liñán, 2011). The 2010 census data in Zambia on status of employment for graduates indicates that 3.4% are employers i.e. they operate their own businesses or engage independently in a profession or trade, and hire one or more employees. In addition, 12.9% are self-employed i.e. they operate their own businesses or engage independently in a profession or trade and hire no employees. The rest of the employed graduates are either employees (82.5%) or unpaid family workers (1.2%). Overall, the census data indicates that graduates' involvement in entrepreneurship (employer and self-employed) is only at 16.3%.

In Zambia, Chimanga (2007) surveyed 38 graduate entrepreneurs and observed that 57.4% of graduates who own and manage registered businesses are aged between 22 and 39 years. The majority of these start businesses as a result of lack of employment opportunities. However, a few graduates quit their jobs in preference for business start-up to increase their incomes. Additionally, 67.4% of the graduate entrepreneurs lament that university education prepares them for

organisational employment rather than starting and managing one's own business (Chimanga, 2007). This may suggest that lack of training for starting and managing one's own business is a major hindrance to graduate entrepreneurship.

A recent GEM survey on Zambia indicates that 30% of individuals starting businesses have a secondary education or higher (Herrington and Kelley, 2012). This means that interest in business by the young and educated seems to be increasing. Studies conducted in developed countries, such as the USA and the UK, indicate that individuals who are more educated and more experienced are more likely to be successfully engaging in entrepreneurship at a high level than the less educated (Pickernell et al., 2011; Robinson and Sexton, 1994). In the UK, 21% of self-employed individuals hold a university degree (Blanchflower and Shadforth, 2007). Compared to firms owned and managed by non-graduates, firms owned and managed by graduates in the UK are more likely to be in knowledge intensive service industries. Additionally, they are more likely to experience high growth rates. Furthermore, such firms are more likely to access external resources such as business advice from informal and formal networks/trade associations and local authority/government agencies. Lastly, such firms are also more likely to have public procurement customers (Pickernell et al., 2011). In a study of EE alumni and a control group for graduates of 9 universities from 9 European countries, Gibcus et al. (2012) find that EE alumni have significantly higher positive perception of entrepreneurship, entrepreneurial knowledge and skills. EE alumni have higher proportions of self-employed individuals (16% vs 10%) and entrepreneurs (8% vs 3%) than the control group. Among those who start businesses, the EE alumni start within 0.7 years of graduation while the control group start after 2.8 years from graduation. In addition, EE alumni entrepreneurs have higher turnover and innovation in their

businesses than the control group entrepreneurs. This means that EE helps graduates to engage in entrepreneurship at a higher level.

Studies on determinants of EI for university students (a proxy for graduates) have focused on developed countries (Luethje and Franke, 2004; Lüthje and Franke, 2003; Nabi et al., 2010; Solesvik et al., 2013; Souitaris et al., 2007). Scholars argue that studies carried out in developing countries are required because they may reach similar or different conclusions from those undertaken in developed countries. This is possible because there are environmental differences between developed and developing countries (Bruton et al., 2010; Fayolle and Liñán, 2014; Hoskisson et al., 2011). For instance, levels of support for business start-ups and SMEs may be different between developed and developing countries. These and many other institutional factors may affect graduate entrepreneurship. Since graduate unemployment is high in Zambia and since graduates are more likely to engage in entrepreneurship at a higher level, it is worthwhile to target this group in order to understand which factors affect graduate entrepreneurship.

2.4.3 Entrepreneurship Education in Higher Education in Zambia

A GEM survey in 2010 indicates that past entrepreneurship training is associated with new business creation. Additionally, developed countries have higher proportions of individuals who have received entrepreneurship training than developing countries. No wonder developed countries have higher proportions of trained individuals involved in business start-up than developing countries (Gibcus et al., 2012; Martínez et al., 2010). In many developed countries, EE is well developed and widespread (Consultants, 2008; Kuratko, 2005; Rae et al., 2012; Solomon, 2007; Solomon et al., 2002; Williamson et al., 2013).

In developing countries such as Zambia, EE is still in its infancy (Brockhaus, 2001; Kuratko, 2003; Kuratko, 2005; Li et al., 2003; Martínez et al., 2010; Zhou and Cal,

2010). In Zambia, government policies have begun to recognise that entrepreneurial skills and entrepreneurship support services are important for entrepreneurship to become a viable career option (National Vision, 2030; Sixth National Development Plan, 2011-2015; MSMEs Policy 2008-2018). However, a holistic approach that includes coordinated and sustained initiatives for development of entrepreneurial competencies for nascent and potential entrepreneurs does not exist. Despite an increasing number of universities in Zambia offering EE since the year 2000, less than 5% of university students engage in EE. In developed economies like the EU, the EE engagement rates are higher i.e. between 16% and 23% (Consultants, 2008; Rae et al., 2012). The low engagement rate in Zambia is perhaps because of lack of empirical evidence on the impact of EE on EI in Zambia (Fayolle and Liñán, 2014; Küttim et al., 2014). In Zambia, there is no study to examine how EE is embedded in the curricular. Neither is there any study on the effect of EE on entrepreneurial intention and behaviour. Therefore, research is necessary to understand the types of EE that are offered in the universities and to assess the impact of EE on the society.

2.5 Conclusions

This chapter has discussed the structure of the Zambian economy and its challenges. Particularly, the chapter highlights the challenge of youth and young graduate unemployment as well as the need to explore factors that influence graduate entrepreneurship. Some studies in developed countries indicate that university graduates, especially EE alumni, are more likely to engage in entrepreneurship at a higher level. Therefore, investigating determinants of graduate entrepreneurship would be beneficial to Zambia. Additionally, EE is still in its infancy in Zambia with little student engagement. Perhaps this is because there is no clear evidence from Zambia showing the impact of EE on

entrepreneurship. Therefore, investigating the impact of EE in the Zambian context would be helpful for policies and practices that aim at promoting entrepreneurship. The next chapter provides a historical and theoretical overview of entrepreneurship and its determinants.

CHAPTER 3: ENTREPRENEURSHIP – HISTORICAL AND THEORETICAL OVERVIEW

3.0 Introduction

As a background to the current research, the preceding chapter discusses the Zambian economy's structure, the challenge of youth and graduate unemployment and the status of entrepreneurship education (EE) in universities. The current chapter aims to develop a historical and theoretical overview of entrepreneurship. The chapter has four major sections: the classical approach highlights the role of entrepreneurship in an economy (3.1); the psychological approach indicates the typical psychological attributes of entrepreneurs (3.2); the sociological approach focusses on socio-cultural factors that shape entrepreneurial behaviour (3.3); and lastly, the processual approach highlights the steps and actions involved in exploiting entrepreneurial opportunities (3.4).

3.1 The Classical Approach

The earliest references to entrepreneurship emanate from the field of economics on the nature and sources of profit. Initially, all economic value is thought to originate from a combination of three factors of production; land, labour and capital (Smith, 1776). In this regard, entrepreneurship refers to all activities that create residual profits in excess of the rate of return on the three factors of production (Matlay, 2005). The classical views indicate that entrepreneurship is about organising production/service while bearing uncertainty and taking risk through commercial activity.

3.1.1 Classical Views of the Entrepreneur

The term 'entrepreneur' originates from the French word 'entreprendre'. It means 'undertake' or 'go-between' (Cantillon, 1755). The entrepreneur is one who

undertakes actions to organise and manage a business. The classical views describe the entrepreneur as a project manager, an organiser of resources and a manager of uncertainty and risk (Osborne, 1995; Gartner, 1989b).

3.1.1.1 Entrepreneur as Project Manager

The meaning of entrepreneurship has evolved over the centuries. The initial recorded conceptualisation takes Marco Polo (1254 AD -1324 AD) as an example in explaining the role of entrepreneurship in the market (Hisrich et al., 2005). Marco Polo was a citizen of the Venetian Republic; the republic lasted from 697AD to 1797 AD in northern part of present Italy. He established trade routes to Asia based on demand from consumers who were separated by geography and culture. He signed contracts with venture capitalists for funds to enable him to purchase, transport and sell goods. While both Marco Polo (the merchant-adventurer) and the venture capitalists were financial and market risk takers, Marco Polo also took on operational, physical and emotional risks. Upon completion of the trip, the profits were used to repay the venture capitalist and the residual belonged to the adventurer (Osborne, 1995). Besides Marco Polo's example, an entrepreneur was also perceived as an individual managing construction or production projects usually funded by the government (Hisrich et al., 2005; Osborne, 1995). In this case, the entrepreneur's role was managerial in nature since he/she neither owned nor financed the enterprise (Hisrich et al., 2005).

3.1.1.2 Entrepreneur as Organiser of Resources

In scholarly literature, the word 'entreprendre' and the role of the entrepreneur first surfaced in the writings of Richard Cantillon, an Irish economist living in Paris (Cantillon, 1755). Cantillon makes pioneering theoretical contribution to the fields of economics and entrepreneurship (Cantillon, 1755; Cantillon, 2010; Hébert,

1981). Broadly, Cantillon deals with a wide variety of fundamental and philosophical issues such as production, distribution and consumption of goods and services; money and interest; international trade and business cycles; and the role of government in the economy (Herbert, 1981). Specific to entrepreneurship, his writings argue that the best way to produce consumer goods for any economy is to allow free markets where entrepreneurs could be counted on to make self-interested judgments on what would best please their consumers (Smith, 1776). Cantillon's views demonstrate that entrepreneurial self-interest will regulate any economy better than if government decides to make all economic decisions on behalf of its citizens (Cantillon, 2010).

Cantillon viewed the entrepreneur as a critical figure in the economy, an organiser of production factors, and a prime director of resources, taking chances and facing uncertainty in the process. Entrepreneurship is associated with all activities that create residual profits in excess of the rate of return for land, labour and capital (Mises, 1949; Ripsas, 1998). In his Essai Sur la Nature du Commerce en General (Essay on the Nature of Trade in General), Cantillon conceptualises entrepreneurship as self-employment of any and every sort. As long as the person is not hired or working for wages, but is engaging in commerce on his/her own, then he/she is an entrepreneur (Cantillon, 2010). Entrepreneurs' occupations come with uncertainty emanating from either the competition or changing tastes of customers. Thus, the entrepreneur's profits are always uncertain; they could be very large but there is also the prospect of bankruptcy.

Cantillon categorises and conceptualises the roles of the economically active population into property owners who receive rental income; capitalists who receive interest income; employees (those hired) who receive wages; and entrepreneurs

who take the risks of organising and managing the factors of production for goods and services that the population needs. Cantillon also identifies two types of entrepreneurs. Firstly there is one group that requires capital for their commercial activities (e.g. traders and manufacturers). These buy at ‘certain price and sell at an uncertain price’. Secondly, there are entrepreneurs who provide a service to the market based on their professional/technical skills (e.g. painters, physicians, lawyers); these entrepreneurs do not require capital but only need their skills in order to engage in commerce (Gibcus et al., 2012). Both types of entrepreneurs have to deal with uncertainty as they manage their businesses. Here Cantillon introduces, for the first time, the theory of entrepreneurship. Cantillon's writings are regarded as the first systematic work over the whole field of entrepreneurship, let alone economics (Schumpeter and Backhaus, 1934; Schumpeter, 1954).

3.1.1.3 Entrepreneur as Manager of Risk and Uncertainty

Turgot distinguishes the entrepreneur from the capitalist by arguing that the former is one who combines factors of production in new ways while the latter provides the requisite funds (Turgot, 1766). Contrary to Cantillon’s view, Turgot argues that it is the capitalist who faces the ultimate uncertainty. Jean Baptiste Say (1821) separates the profits of the entrepreneur from the profits of capital. Using an example of a family business, he observes that the owner could receive profit as the entrepreneur, salary as a manager, and interest as the investor of capital. Say further argues that the entrepreneur not only undertakes the role of "superintendence and administration" but also exhibits the attributes of judgement, perseverance, knowledge of the world of business, and ability to organise production (Say and Richter, 1816; Say, 1821). Scholars indicate that Say deviates from classical economists in his concept of the entrepreneur; classical economists, like Adam Smith, consider the entrepreneur to be part of the market

forces ('the invisible hand') and, therefore, do not attempt to recognise his/her specific role in the economy (Kirchhoff, 1994). Say, like Turgot, views the entrepreneur as someone who organises and coordinates production activities; he suggests that entrepreneurship is the fourth factor of production, the other factors of production being land, labour and capital.

John Stewart Mill is often credited with bringing the term 'entrepreneurship' into main stream economics literature in the English language (Mill, 1848). He identifies direction, control, superintendence and risk bearing as the prime functions of the entrepreneur. However, Mill does not attempt to differentiate the role of the entrepreneur from that of the capitalist. Hawley (1907) suggests that the rewards of enterprise accrue to the owner due to the assumption of uncertainty and responsibility. The risk theory of profit clearly asserts that managers can create profits due to incremental innovation but unless they also take risk of ownership, they are not entrepreneurs (Hawley, 1907; Knight, 1921).

In America, Knight (1921) identifies the restrictions within which economic theory is formalised and attempts to place entrepreneurship and the firm outside those restrictions. He does so by distinguishing between risk and uncertainty. He expands Cantillon's concept of uncertainty by suggesting that the entrepreneurs bear the responsibility and consequences of making decisions under uncertainty and risk. Indeed before a new product or service is introduced, a person cannot know with certainty that he or she can produce desired outputs (technical risk), meet consumers' needs (market risk), generate profits in the face of competition (competitive risk), and be able to repay debt and meet the financial expectations of shareholders (financial risk). Knight further emphasises the key distinction between insurable risk and non-insurable uncertainty (Knight, 1921; Shane, 2003;

Wu, 1989). For Knight, risk implies knowledge of the probability that an event will occur and this is insurable. Uncertainty is immeasurable and, therefore, not insurable. He stresses that because of the unique uncertainty of entrepreneurship, it cannot be insured, capitalised or salaried (Knight, 1921). In this regard, he argues that decisions under uncertainty extend beyond the evidence and depend on the individual. Knight's entrepreneur is a manager of uncertainty. From a macro perspective, Cantillon, Say and Knight see entrepreneurship as a way of managing resources, risk and uncertainty to meet market needs and improve the efficiency of an economy (Acs, 2006; Brockhaus Sr, 1980; Mescon and Montanari, 1981; Reynolds et al., 1999).

The foregoing classical views depict the entrepreneur as an organiser and a manager under conditions of risk and uncertainty. The ability to accommodate the unexpected and overcome problems is a key attribute of entrepreneurship. However, these writers place the entrepreneur in a particularly stable environment and not in a dynamic environment. In addition, the writers do not include the innovative role of the entrepreneur. These are perspectives addressed by neo-classical theorists.

3.1.2 Neo-Classical Views

The neo-classical views of the entrepreneur became prominent around 1879. They focus on aggregate equilibrium results in an economy rather than adjustment processes at a micro level that Cantillon and Say address. Under this broad term, these economists pursue and expound macroeconomic analyses of the `balance' between aggregate supply and aggregate demand (Guzman-Cuevas, 1994). The neo-classical views combine the functions of the capitalist and the entrepreneur. The entrepreneur is seen as an abstract figure, unconcerned about the influences external to the rational operation of the firm he/she directs (Greenfield and

Strickon, 1981; Greenfield and Strickon, 1986). Scholars argue that the absence of a specific mechanism for creation of new demand is the greatest weakness of neo-classical economic theories (Greenfield and Strickon 1981, 1986).The specific role of the entrepreneur did not become prominent in the writings of neo-classical economists until they turned their attention to problems associated with economic growth. In this regard, some neo-classical economists expound on how micro-level decisions and actions of the entrepreneur influence economic activity.

A few neo-classical economists make notable contributions to entrepreneurship. For Walras, the entrepreneur mainly performs an administrative function by coordinating production activities and capital. This view combines the role of the entrepreneur and the capitalist (Walras and Jaffé, 1898). For Keynes, the entrepreneur is the decision maker within a firm responsible for investment decisions and bearing uncertainty in his or her predictions of forecast demand (Keynes, 1936). Furthermore, Marshall, in his "Principles of Economics" book, emphasises the distinguishing nature of the entrepreneur's organisational and leadership role from that of a conventional manager (Marshall, 1920). The prominent views of Kirzner and Schumpeter on the role of the entrepreneur are discussed next.

3.1.2.1 Kirznerian Entrepreneurship

Kirznerian entrepreneurship entails taking advantage of opportunities through discovery of profitable discrepancies, gaps, and mismatches in knowledge and information that others have not yet perceived or exploited. Typically, the entrepreneur is alerted to a new product, a superior production process, or a price mismatch (arbitrage) and acts to capitalise on the opportunity which that discovery presents (Hayek, 1945). These activities increase knowledge about the situation,

reduce the general level of uncertainty over time, and promote market processes that help to reduce or eliminate the gap between market leaders and followers.

In relation to the nature of entrepreneurship, main stream Austrian economists argue that the entrepreneur profits from his/her alertness to opportunities that exist in an uncertain, non-equilibrium situation (Mises, 1949). This alertness enables the entrepreneur to perceive and act on those opportunities before others do (Kirzner, 1973; Kirzner, 1978; Kirzner, 1997). Kirzner, Mises and Hayek's argument is that markets are constantly in states of disequilibrium and alertness to disequilibrium is the key characteristic of the entrepreneur. They emphasise that entrepreneurship does not create disequilibrium but rather it has an equilibrating role. This is the role that entails actions necessary to shift markets towards a state of equilibrium by identifying gaps in the market (entrepreneurial opportunities) and filling those gaps. The entrepreneur is alert to opportunities that exist, rather than, as explained by Schumpeter, creating new opportunities.

Schultz's Human Capital Approach to Adjustments to Disequilibria

Contributing to Kirzner's perspectives, Schultz suggests that markets do not automatically and instantaneously regain equilibrium following an exogenous shock. The continual emergence of opportunities is central to entrepreneurship. The source of opportunities is disequilibria that are inevitable in the dynamics of modernisation and economic growth (Schultz 1982, p.439). There are many sources of these disequilibria (and, hence, opportunities) and they include those arising from technical progress (innovation) and demographic shifts in population. "Regaining equilibrium takes time, and how people proceed over time depends on their efficiency in responding to any given disequilibrium and on the costs and returns of the sequence of adjustments available to them" (Schultz 1975, p. 829). He takes innovation as given, and focuses on how economic agents adjust to

exogenous shocks. In Schultz's formulation, entrepreneurship is the ability to adjust, or reallocate resources, in response to changing circumstances (Schultz, 1975; Schultz, 1979; Schultz and Schultz, 1982; Schultz, 1982). The ability to identify, develop and exploit new opportunities can be enhanced through investment in skills and knowledge (Cook, 2008). Like any other forms of human capital, entrepreneurial ability (i.e. the ability to deal with disequilibria) can be enhanced through education, training and experience (Holmes and Schmitz Jr, 1990; Klein and Cook, 2006; Schultz and Schultz, 1982). This perspective is consistent with human capital theory which posits that relevant skills, knowledge and experience can lead to higher performance outcomes (Becker, 1962; Becker, 2009; Ployhart and Moliterno, 2011; Unger et al., 2011).

3.1.2.2 Schumpeterian Entrepreneurship

Schumpeter (1934) perceives the entrepreneur as a person who conceives and executes "new combinations" of factors in production and, thus, plays a key role in market and economic development processes. Schumpeter is regarded as the father of entrepreneurship and innovation because of his contribution to the entrepreneurship theory (Gedeon, 2010; Hock-Beng, 1990). Schumpeter suggests two theories of entrepreneurship (Hock-Beng,1990). Firstly, he proposes that innovation and technological change of a nation comes from entrepreneurs, or "wild spirits". He uses the word 'Unternehmen *or Unternehmergeis*t', German for entrepreneur-spirit. It is literally translated from the French word "entreprendre" which means 'take in hand' or 'undertake' some activity. Schumpeter indicates that entrepreneurs are the ones who make things work/happen in any economy. He further suggests that some degree of monopoly power is necessary to encourage entrepreneurs to continue innovating.

Secondly, Schumpeter predicts that because large organisations are more likely to have capacity to invest in research and development, they would produce most of the innovations. Accordingly, large monopolistic enterprises would be the principal engines of technological progress as they are likely to have the necessary resources to undertake complex technological activities. These large firms are also threatened by "creative destruction" (the continuous process of superior innovations displacing inferior technologies). To operationalise his theses, Schumpeter proposes that economic change revolves around innovation, entrepreneurial activities and market power. He argues that innovation-originated market power could provide better economic results than the invisible hand and price competition. Additionally, technological innovation often creates temporary monopolies, allowing abnormal profits that would soon be reduced by new entrants who are rivals and imitators. These temporary monopolies are necessary to create the incentive necessary for firms to develop new products and processes. Furthermore, Schumpeter differentiates inventions from innovations arguing that as long as inventions are not carried into practice, inventions are economically irrelevant. Therefore, the role of entrepreneurs is to turn inventions into innovations (Hock-Beng, 1990).

> *"…the function of entrepreneurs is to reform or revolutionise the pattern of production by exploiting an invention or, more generally, an untried technological possibility for producing a new commodity or producing an old one in a new way, by opening up a new source of supply of materials or a new outlet for products, or by reorganising an industry and so on… This kind of activity is primarily responsible for the recurrent "prosperities" that revolutionise the economic organism and the recurrent "recessions" that are due to the dis-equilibrating impact of the new products or methods. To undertake new things is difficult and constitutes a distinct economic function, first, because they lie outside of the routine tasks which resist in many ways… from simple refusal either to finance or to buy a new thing, to physical attack on the man who tries to produce it".* Schumpeter, 1950 (quoted from Hock-Beng, 1990, p.342)

The key attributes and aptitudes evident from Schumpeter's entrepreneur are innovativeness, self-confidence, daring, creativity, and desire to break routines. Schumpeter's "creative destruction" implies that entrepreneurs create new wealth through the process of destroying existing market structures (thus, causing market disequilibrium) as their innovations increase new demand and create new wealth. This view is contrary to Kirzner's view that depicts the market as largely static, the only changes being adjustments from one competitive market equilibrium to another. "Schumpeter's entrepreneur acts to disturb an existing equilibrium situation. By contrast, my own treatment of the entrepreneur emphasises the equilibrating aspects of his role" (Kirzner, 1973, p72-73). Schumpeter's theory argues that the market is dynamic and depends on continuous change in buyer and supplier behaviour. Schumpeter's entrepreneurs are change agents and their activities result in innovations, systemic changes, and new market development processes (Kirchhoff, 1994; Hong-Beng, 1990).

In summary, the economic approach (also known as classical and neo classical approach) to entrepreneurship focuses on the role of the entrepreneur in the economy in market development (Cope, 2005). This approach depicts the role of the entrepreneur in the market (leading to equilibrium) when consumers' preferences are predicted correctly and profitable market gaps are spotted and filled. The exception is Schumpeter who sees the entrepreneur as engaging in innovation or creative destruction (leading to market disequilibrium). The overall critique against this approach is that it ignores the institutions (environment) that impact on entrepreneurs' behaviour (Shane, 2003; Schultz, 1982; Cope, 2005).

3.2 Psychological Approach

This approach suggests that some individuals have certain psychological characteristics that determine whether or not one finds the tasks and roles of entrepreneurship attractive and viable (McClelland, 1965). Given the same information and skills, individuals with characteristics relevant to entrepreneurship are more likely to pursue an entrepreneurial opportunity (Shane, 2003). Scholars indicate that relevant traits are one of the critical determinants of the new venture creation decision. In fact, empirical studies indicate that relevant traits are particularly critical at the intention stage. However, their significance reduces at nascence and growth stages when skills and knowledge become more important (Frank et al., 2007). The beginning of the psychological approach can be traced to Smiles (1859). In describing the famous Victorian entrepreneurs, he identifies the entrepreneur by key psychological characteristics (Smiles, 1859). These characteristics include integrity, self-learning, courage, conscientiousness, patience, perseverance, self-discipline and self-respect. In explaining the innovation or 'creative destruction' process of entrepreneurship, Schumpeter (1950) describes the persons that are more likely to exploit entrepreneurial opportunities as extraordinary and few:

> "…*to act with confidence beyond the range of familiar beacons and to overcome the resistance, requires aptitudes that are present in only a small fraction of the population and that define the entrepreneurial type as well as the entrepreneurial function…Schumpeter, 1950."* (quoted in Hock-Beng,1990, p.342)

From the late 1960s until the 1980s, the emphasis on individual characteristics of entrepreneurs became known as the traits school of entrepreneurship (Low and MacMillan, 1988; Shaver and Scott, 1991; Solomon and Winslow, 1988). Some scholars indicate that while some characteristics can be developed through training and experience, other characteristics are innate (Gibb, 2007; Klein and

Bullock, 2006; Shuman et al., 1985; Timmons et al., 1987). In the psychology literature, following the work of Costa and McCrae (Costa Jr and McCrae, 1992; McCrae and Costa, 1985; McCrae and Costa Jr, 1989; McCrae and Costa, 2004), personality traits are grouped into five dimensions constituting the big-five factor model. The five factors are extraversion (extroversion or introversion), openness to experience, neuroticism (emotional instability), conscientiousness and agreeableness. Meta-analyses of empirical studies indicate that people who score highly on extraversion, openness to experience and conscientiousness, and low on neuroticism and agreeableness are more likely to be entrepreneurs (Hermann, 2011; Zhao et al., 2010a). Openness to experience is akin to innovativeness and risk taking; conscientiousness is related to need for achievement.

The broad range of psychological factors identified in the literature can be organised into a few categories: personality and motives, core self-evaluation characteristics, cognitive characteristics and other attributes (Table 3.1).

Table 3.1 - Classification of Entrepreneurial Characteristics

CHARACTERISTICS	LITERATURE
A. Personality and Motives	
Need for achievement/ conscientiousness	(McClelland, 1961; Volery et al., 2013; Zhao et al., 2010a)
Risk taking propensity/ openness to experience	(Brockhaus Sr, 1980; Frank et al., 2007; Knight, 1921)
Desire for freedom/independence	(Burke et al., 2000; Caird, 1991; Meredith et al., 1982)
Disagreeableness/deviancy	(Barrick and Mount, 1991; Brodsky, 1993; De Vries, 1977; Deakins et al., 1996)
Extraversion	(Barrick and Mount, 1991; Bhide, 2000; Zhao and Seibert, 2006; Zhao et al., 2010a)
B. Core Self-evaluation	
Internal locus of control/emotional stability/proactivity	(Bonnett and Furnham, 1991; Rauch and Frese, 2007; Rotter, 1966; Shapero, 1975)
Generalised self-efficacy	(Ainuddin et al., 2006; Bandura, 1977; Chen et al., 1998; Rauch and Frese, 2007)
C. Cognitive Characteristics	
Over-confidence	(Arabsheibani et al., 2000; Busenitz and Barney, 1997)
Representativeness	Busenitz and Barney (1997)
Intuitiveness	(Allinson et al., 2000; Busenitz and Barney, 1997)

In Table 3.1, the first two categories (A and B) comprise fundamental characteristics of a person that endure over time and acount for consistent patterns of responses to everyday situations (Rauch and Frese, 2007). People can and do change their personalities, motivations and core self-evaluation but these changes are rare and relatively difficult to achieve. In contrast, cognitive characteristics (the way people think or process information and make decisions) tend to vary significantly over time and are situation dependent (Shane, 2003). These psychological factors will influence the decision to engage in entrepreneurship.

3.2.1 Personality and Motives

Personality and motives are fundamental characteristics of individuals and lead them to behave a certain way consistently. Faced with the same information, skills, opportunity or cost, some people will decide to exploit an opportunity while others will not. The major personality and motivation attributes associated with entrepreneurship are: risk taking propensity, need for achievement, desire for independence, extraversion and agreeableness (Rauch and Frese, 2007; Shane, 2003; Zhao and Seibert, 2006; Zhao et al., 2010a).

Risk Taking Propensity

This is an aspect of personality that refers to a person's willingness and readiness to engage in risky activity. People with higher risk-taking propensity (RTP) are more likely to choose to exploit opportunities because such individuals feel capable of thriving in the uncertainties associated with entrepreneurship (Knight, 1921; Wu, 1989). In addition, individuals with high RTP are eager to engage in activities or situations that involve unceratinty and, therefore, they would find entrepreneurship to be attractive and possible (Franke and Luethje, 2003). Most empirical studies find that, with a few exceptions such as Marques et al. (2012),

individuals with higher RTP are more likely to become entrepreneurs (Sánchez, 2013; Stewart Jr and Roth, 2001; Zhao et al., 2005).

Need for Achievement

Need for achievement (NAch) is an individual's persistence, hard work and motivation for significant accomplishment (McClelland, 1961; McClelland, 1965; McClelland, 1967). For McClelland, a high NAch is a motivation that leads people to undertake activities and tasks that demand individual effort and skill, and provide clear feedback on outcomes. Except for a few studies that indicate otherwise (Cromie, 2000; Littunen, 2000), most empirical research finds support for the proposition that individuals who have a higher NAch are more likely to be entrepreneurs (Collins et al., 2004a; Dohse and Walter, 2012; Frank et al., 2007; Kristiansen and Indarti, 2004; Rauch and Frese, 2007; Volery et al., 2013). This is because NAch drives individuals to seek careers and tasks in which performance is due to one's own efforts and not the efforts of others. Therefore, individuals with high NAch are more likely to find entrepreneurship attractive (McClelland, 1965).

Desire for Independence

This is an aspect of personality in which an individual prefers to engage in independent action as opposed to action involving others or under the supervision/control of others (Wu, 1989). Empirical studies find that the desire to do things one's way and to be in control is a common reason given by firm founders (Caird, 1991; Cromie, 1987; Kolvereid, 1996b).

Extraversion

This is an aspect of personality that incorporates the attributes of sociability, assertiveness, activeness, ambition, initiative, expressiveness, gregariousness, exhibitionism, talkativeness, urgency and impetuousness (Barrick and Mount,

1991; Zhao et al., 2010a). People with this characteristic are more likely to choose to engage in entrepreneurship. This is because entrepreneurs identify opportunities that are not apparent to others; they often have to deal with the challenge of persuading others like customers, employees and investors that the opportunity they have seen is valuable and viable. Empirical studies and meta-analyses thereof find support for these propositions (Babb and Babb, 1992; Burke et al., 2000; Hermann, 2011; Wooten et al., 1999).

Agreeableness

This characteristic incorporates friendliness, social conformity, compliance, flexibility, tendency to trust, cooperativeness, tendency to forgive, tolerance, softheartedness, and courteousness (Barrick and Mount, 1991). People with this characteristic are less likely to be entrepreneurs. An entrepreneur must have a critical approach to information enhanced by a suspicious non-trusting and sceptical nature. This is necessary for one to consider different perspectives on an issue during decision-making. Empirical studies and meta-analyses thereof find support for the notion that entrepreneurs tend to be less agreeable and less trusting (i.e. more suspicious) than non-entrepreneurs (Brodsky, 1993; Fraboni and Saltstone, 1990; Zhao and Seibert, 2006).

3.2.2 Core Self–Evaluation Characteristics

Core self-evaluation is a psychological concept that is related to locus of control, generalised self-efficacy, self-esteem and neuroticism (Shane, 2003). Judge et al. (2002) argues that the characteristics of locus of control, generalised self-efficacy, self-esteem and neuroticism focus on a person's sense of control over his or her own affairs i.e. one's general belief that he or she can influence any outcomes through effort and capability. Studies in psychology indicate that these

characteristics deal with the same higher order concept and, therefore, are related. People with high levels of internal locus of control will have high self-esteem, high generalised self-efficacy and emotional stability (Judge et al., 2002).

Internal Locus of Control

Internal locus of control (ILC) is a person's belief that he/she can determine his/her own success through effort and capability, not the environment (Rotter, 1966). An individual with high ILC underplays the influence of luck, fate and external obstacles in goal attainment. On the other hand, an individual with low ILC believes that factors beyond one's control determine outcomes (Rotter, 1966). With a few exceptions (Altinay et al., 2012; Chell et al., 1991), most empirical evidences in prior studies indicate that individuals with high ILC are more likely to start a business (Lee and Tsang, 2001; Lüthje and Franke, 2003; Rauch and Frese, 2007). The rationale is that the belief that an individual forms about the value of entrepreneurial opportunities depends partly on self-evaluation of one's own abilities to exploit those opportunities (Rauch and Frese, 2007; Frank et al, 2007). This self-evaluation depends on the degree to which the individual believes he or she can influence the outcomes. Individuals with high ILC believe they can influence any outcomes. Therefore, they are more likely to consider entrepreneurship to be possible and worthwhile.

Generalised Self-efficacy

Generalised self-efficacy (GSE) reflects a general tendency to view oneself as capable or incapable of meeting task demands in a wide variety of contexts (Bandura, 2001). Individuals with high GSE are more likely to exhibit personal initiative, search for achievable but challenging opportunities, and persevere when encountering any challenges (Casson, 1995; Chen et al., 2004; Ripsas, 1998; Wu, 1989). No wonder empirical evidence indicates that such individuals are more

likely to consider business start-up attractive and possible (Ainuddin et al., 2006; Chen et al., 1998; Markman et al., 2002; Robinson et al., 1991).

3.2.3 Cognitive Characteristics

Cognitive characteristics are factors that influence how people think and make decisions (Busenitz and Barney, 1997). Compared to personality, motives and core self-evaluation characteristics, cognitive characteristics tend to change overtime. They tend to be more heavily influenced by a person's perception of the situation he/she is involved in. To exploit an entrepreneurial opportunity, a person must make decisions under uncertainty and perhaps with limited information. These are conditions that allow subjective approaches or rules of thumb in decision making i.e. making decisions by exploring possibilities rather than following objective rules (Busenitz and Barney, 1997; Casson, 1995; Wu, 1989).

> *"Biases and heuristics are decision rules, cognitive mechanisms, and subjective opinions people use to assist in making decisions in situations of uncertainty and limited information. Frequently, the use of biases and heuristics yields acceptable solutions to problems for individuals in an effective and efficient manner…"biases and heuristics" is used to refer to… simplifying strategies that individuals use to make decisions, especially in uncertain and complex conditions."* Busenitz and Barney (1997, p.12)

In situations involving uncertainty and incomplete information, such as evaluation and exploitation of entrepreneurial opportunities, more comprehensive and cautious decision-making is not possible, and rules of thumb may provide an effective way to approximate the appropriate decisions. The use of heuristics has also been found to be associated with innovativeness. Practically, without employing subjective approaches, many entrepreneurial decisions would never be made. With entrepreneurial ventures in particular, the opportunity would often disappear by the time all necessary information becomes available for rational decision-making. The cognitive characteristics associated with entrepreneurship include:

a) Overconfidence i.e. optimism bias which is reflected in the tendency to overestimate the probability of being right in the face of uncertainty and incomplete information (Busenitz, 1999). Empirical evidence indicates that overconfident individuals are more likely to start a business (Arabsheibani et al., 2000; Bhide, 2000; Busenitz and Barney, 1997; Gartner and Thomas, 1989; Gartner and Thomas, 1993);

b) Representativeness i.e. making generalisations and decisions from a small sample or incomplete information (Busenitz and Barney, 1997). Empirical evidence indicates that entrepreneurs, compared to managers, are more likely to use rules of thumb in decision making rather than undertaking extensive statistical analyses (Busenitz and Barney, 1997; Katz, 1992; Porter, 1980); and

c) Intuition i.e. a feeling that something is true without gathering information (Baumol, 1993). Empirical evidence indicates that entrepreneurs have a tendency to rely on intuition in the absence of complete information (Allinson et al., 2000; Baron, 2000).

3.2.4 Overall Critique of Psychological Trait Approach

Some scholars criticise research which attempts to develop personality profiles of the entrepreneur. Such critics encourage research on behaviours and activities of entrepreneurs, rather than psychological traits (Jenks, 1950; Kilby, 1971). There are many reasons for these critiques. Firstly, it is not clear whether entrepreneurs possess these attributes from birth or acquire them as a result of: a) being entrepreneurs (Chell et al., 1991; Chell, 2000; Krueger and Dickson, 1994); b) being in a cultural setting that favours entrepreneurship (Kristiansen and Indarti, 2004; Shinnar et al., 2012); or c) grasping entrepreneurship knowledge and skills (Hansemark, 1998; Rasheed, 2000; Rasheed and Rasheed, 2003).

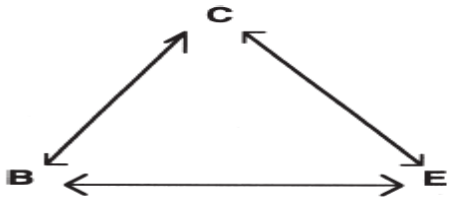
Secondly, prior empirical studies report mixed conclusions. Characteristics such as risk taking propensity, locus of control and tolerance for ambiguity sometimes: a) lower the business start-up intention (Solesvik et al., 2013); and b) have no significant effect on start-up intention (Altinay et al., 2012). Chell (2000) argues that very few entrepreneurs possess all of the attributes or if they do they combine them differently. Some empirical studies (Brockhaus Sr, 1980; Brockhaus and Nord, 1979; Ertuna and Gurel, 2011; Fairlie and Holleran, 2011; Gurel et al., 2010; Hansemark, 2003; Sexton and Kent, 1981) find that when certain psychological traits are carefully evaluated, it is not possible to consistently distinguish entrepreneurs from non-entrepreneurs (Gartner, 1989a; Gartner, 1989b).

Thirdly, scholars increasingly advocate for theoretical models that reflect that an individual's behaviour may be determined by interactions between individual factors and environmental factors (Faulconer and Williams, 1985; Gergen, 1985; Hitt et al., 2007; House et al., 1996; Shepherd, 2011). Consequently, some scholars suggest that inconsistent findings may be addressed by cross level studies that simultaneously take into account the influence of contextual factors (Frank et al., 2007; Gartner, 1989a; House et al., 1996; Shepherd, 2011).

3.3 Sociological Approach

The sociological approach to entrepreneurship is based on social behaviour theories. It emphasises the environmental or situational determinants of entrepreneurial behaviour; it focuses on the person in context (Atkinson et al., 1983; Bandura, 1982; Bandura, 1977; Chen et al., 1998; Mauer et al., 2009; Mueller and Thomas, 2001; Shapero, 1975; Shapero, 1981; Shapero and Sokol, 1982). Bandura (1977) distinguishes social learning theory (SLT) from traditional psychological theories by emphasising reciprocal influence among cognition,

behaviour and environment. Whereas traditional unidirectional theories depict human behaviour as caused either by environmental factors or internal dispositions, SLT explains human behaviour in terms of triadic reciprocal influences (Figure 3.1). This means that an individual's behaviour (B) is affected by interactions amongst cognitive and other individual factors (C) and the environment (E).



Source: (Chen et al., 1998)

Figure 3.1- Behaviour (B), Cognition (C) and Environment (E) Interaction

Atkinson et al. (1983, p.58) suggest that ''to predict behaviour, we need to know how the characteristics of the individual interact with the characteristics of the environment.'' Furthermore, SLT indicates that individual differences in behaviour emanate largely from differences in the types of learning experiences encountered in the course of growing up and/or socialisation (Bandura and Albert, 1989). These experiences may affect one's perceived self-efficacy toward certain tasks. Self-efficacy is the extent to which an individual believes in his or her capability to undertake a particular task in a given environment (Mauer et al., 2009). Based on SLT, behavioural patterns are learnt through: a) mastery experiences (prior actual, related or simulated experience of something and the associated positive/negative feedback); b) role modelling and vicarious experiences i.e. observation of credible role models of the behaviour and the consequences of the behaviour; and, c) social persuasion i.e. what is acceptable is learnt through social

peer pressure and social discourse (Krueger and Dickson, 1994; Scherer et al., 1989).

Chell et al. (2001) argue that individuals develop expectancies and values from social experiences. These social experiences in turn influence the person's perception of the entrepreneurial role and its value (Chell, 1985; Chell et al., 1991; Chell, 2001). Therefore, individuals' perceived entrepreneurial capability and the consequent behaviour can be understood in terms of the types of situations encountered and the social (reference) groups to which individuals relate throughout their lives (Gibb and Ritchie, 1982). Specifically, family background, situational factors and the wider environment of entrepreneurship are sources of influence.

3.3.1 Family Background

Parents are the primary role-models in the early socialisation of children. Factors such as parents' occupation, social status, birth order, and the relationship with parents are associated with entry into entrepreneurship (Scherer et al., 1989). Scholars argue that the existence of an entrepreneurial parent creates an environment where development of entrepreneurial ability is encouraged and success is stressed. Most empirical evidence indicates that, with a few exceptions such as Zhang et al. (2013), individuals with prior entrepreneurial exposure are more likely to start a business (Fairlie and Robb, 2006; Falck et al., 2012; Hisrich and Peters, 1995; Mancuso, 1974; Robinson and Hunt, 1992; Shapero, 1981; Zellweger et al., 2011).

3.3.2 Social, Situational and other Background Factors

Scholars indicate that social marginality, displacement events, gender, age and prior experience have an influence on the likelihood of engaging in entrepreneurship.

Social Marginality

Entrepreneurship is often stimulated by social marginality (Deakins et al., 1997). This entails that groups or individuals on the periphery of a social system are more likely to behave entrepreneurially. These groups, perhaps because of their religion, culture, ethnic beliefs or minority status, encounter a marginal social position. This relative deprivation may trigger the impetus of such individuals to move into entrepreneurship (Curran and Burrows, 1987; Stanworth and Curran, 1973). For instance, entrepreneurship in certain ethnic minorities is the approach that the disadvantaged minorities take to alter their status quo (Casson, 1982). In the UK, self-employment rate for ethnic groups such as Indian, Pakistanian, Bangladeshi and Chinese is higher than that of the indigenous white group (Blanchflower and Shadforth, 2007).

Situational Factors

Scholars indicate that sometimes a displacement event may trigger entry into entrepreneurship. Such triggers include loss of a job, redundancy, or job frustration (Shapero, 1975). The one possible alternative may be the launch of a new enterprise. Entrepreneurs are sometimes seen as "misfits" (deviants) or displaced individuals. An entrepreneur may also be someone unable to fit comfortably into conventional organisational life (De Vries, 1977). Entrepreneurship provides a productive outlet for enterprising energy.

3.3.3 Supportive Entrepreneurial Environment (Institutional Factors)

A legal, social, financial and economic environment that is supportive to entrepreneurship is likely to promote business start-ups (Alvarez and Busenitz, 2001; De Clercq et al., 2011; Krueger and Brazeal, 1994; Penrose, 1959; Verheul et al., 2002). Scholars argue that attitude and perceived capability toward entrepreneurship are high when individuals can assess their own entrepreneurial

ability within a supportive environment (Chen et al., 1998; Mauer et al., 2009). Institutional theory is often the basis for exploring the effects of the environment on entrepreneurial activity. Scholars suggest that there is a universal environment outside of the entrepreneur's mind which provides rules and norms that influence an economy and its culture and policies (Busenitz et al., 2000; DiMaggio and Powell, 1983; Scott, 2008). Institutions comprise the relevant factors in the environment that provide rules and norms that either restrict or facilitate individual actions (North, 1990). Thus, institutional theory can be employed to examine how relevant formal and informal institutions enable or restrain entrepreneurship. Not only do institutions affect the availability of opportunities, but also they affect how opportunities are viewed by entrepreneurs.

> *"The kinds of information and knowledge required by the entrepreneur are in good part a consequence of a particular institutional context. Incentives/barriers are built in the institutional framework. The institutional framework will shape the direction of knowledge and skills which will be the decisive factor for the long run development of that society."* North (1990, p.78)

Albeit mainly considered at macro level, empirical studies in developed countries find evidence that favourable regulatory, cognitive and normative institutions positively influence the rate and type of entrepreneurial activity in an economy (Bruton et al., 2010; Ebner, 2006; Falck et al., 2012; Rønning, 2006; Wicks, 2001). Regulatory institutions include favourable laws and regulations for business formation and operations as well as mechanisms supportive of individuals' entrepreneurial efforts. Cognitive institutions refer to the level of shared knowledge and information in society about venture creation, operations and growth. Lastly, normative institutions refer to acceptability and admiration of innovation, creativity and entrepreneurial careers in society (Busenitz et al., 2000; Engle et al., 2011; Hofstede, 1984; Manolova et al., 2008; Reynolds, 2011; Spencer and Gomez, 2004).

In summary, the sociological approach argues that entrepreneurial behaviour is influenced by the immediate and wider environment (e.g family background, situational factors and the wider environment comprising norms, shared information and the regulatory framework). The critiques against this approach lie in two fields. Firstly, it ignores the fact that individuals are different in terms of personality and so irrespective of how favourable the environment might be not everyone will choose to engage in entrepreneurship (Fayolle and Linan, 2014). Secondly, the framework that incorporates formal and informal institutions for assessing a country's wider entrepreneurial environment (i.e. Busenitz et al.'s 2000 Country Institutional Profile for Entrepreneurship) has only been empirically investigated at macro level to determine the type and rate of entrepreneurship in a country; it is yet to be empirically investigated at micro level (Bruton et al., 2010).

3.4 Processual View of Entrepreneurship

A process is a series of actions, changes or functions bringing about an outcome (Dictionary, 2011). Some scholars argue that the process involved in creating a new venture or new value should be fundamental to the definition of entrepreneurship. In other words, the processual view emphasises what entrepreneurs do and how they do it, not who the entrepreneur is (Carter et al., 1996; Gartner, 1990; Gartner, 1989b; Moroz and Hindle, 2010; Shane and Venkataraman, 2000; Shane, 2003; Stevenson and Jarillo, 1990). Scholars argue that entrepreneurship is about competitive behaviours that drive market processes toward efficiency and effectiveness; entrepreneurship affects the market processes through new alternative choice for consumers, pricing, and adjustments in offerings of competitors (Casson, 1982; Davidsson, 2004; Hock-Beng, 1990; Leibenstein, 1966).

Scholars identify the actions (steps) an entrepreneur takes in exploiting an opportunity (Schumpeter, 1934; Cole, 1965; Leibenstein, 1968; Vesper, 1980). Gartner (1989) argues that entrepreneurship is not a fixed state of existence or profession; rather entrepreneurship is a process that individuals undertake to create organisations. This echoes views by other scholars suggesting that even obvious entrepreneurs may exhibit their entrepreneurship only during a certain phase of their career and/or concerning a certain part of their activities (Bruyat and Julien, 2001; Carland et al., 1984; Carree and Thurik, 2010; Gartner, 1990; Gartner, 1989b; Schumpeter, 1934).

Gartner (1985) identifies that there are six common activities in the process of entrepreneurship: identifying a business opportunity; evaluating the opportunity; accumulating resources; initiating the product/service; marketing the product/service; building an organisation ; and, responding to government, society and the market. Following Gartner's (1985) work, Shane (2003) develops a framework based on entrepreneurial opportunities (Figure 3.2). This framework is the most comprehensive one that the field has and it itemises the phases of the entrepreneurial process (Hindle and Al-Shanfari, 2011; Moroz and Hindle, 2010). In addition, it implicitly acknowledges that each phase requires and depends on different skills, actions and contexts. Lastly, entrepreneurship is a recursive process (not linear) reflecting the typical actions and learning of entrepreneurs.

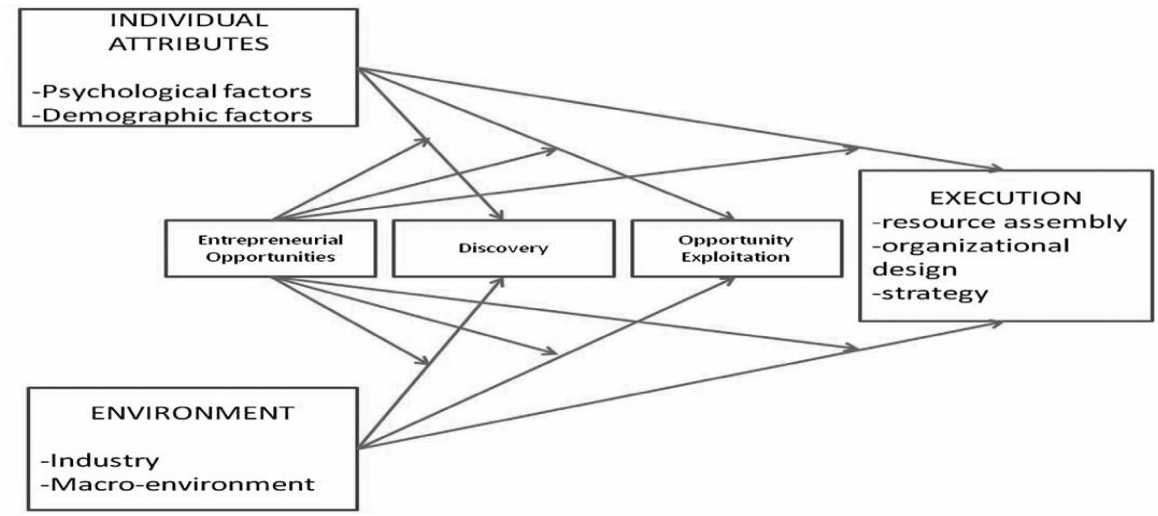


Figure 3.2 - The Process of Entrepreneurship (Shane, 2003)

As indicated in Figure 3.2, the entrepreneurial process involves the identification (discovery) and evaluation of an opportunity; the decision as to whether to exploit it; the efforts to obtain the required resources; organising the required resources into a new combination; and the development of a strategy for the new venture. These different activities and phases are all influenced by individual, industry and environmental factors (Shane, 2003). Therefore, entrepreneurship is a process that involves the recognition, evaluation and exploitation of opportunities to introduce new products or processes, access new markets or raw materials through organising efforts that previously had not existed (Venkataraman, 1997; Shane and Venkataraman, 2000; Schumpeter, 1934; Kirzner, 1973; Knight, 1921; Millier, 1983).

In summary, the processual view is a recent approach to entrepreneurship. It focuses on the process or series of actions/steps/activities that have to be taken to transform an enterprising idea into an actual viable venture. It has become one of the pillars for justifying that certain aspects of entrepreneurship can be learnt/taught. The critique against this approach is that the link between the process of entrepreneurship and the decision to engage with an entrepreneurial

opportunity is not yet clear (Rideout and Gray, 2013). This is where the EI models discussed in the next chapter fit in.

3.6 Conclusions

Based on the historical and theoretical perspectives discussed, this chapter has highlighted the fact that entrepreneurship is a multi-dimensional phenomenon (Gedeon, 2010; Matlay, 2005). Four major approaches can be employed to understand entrepreneurship. These include: the economic approach (focusing on the role of entrepreneurship in an economy), the psychological approach (emphasising on the psychological factors associated with entrepreneurship), the sociological approach (concentrating on the socio-cultural environment influencing entrepreneurial behaviour), and the processual approach (focusing on the steps in the process of entrepreneurship). Entrepreneurs are important because their activities affect markets such as improved efficiency due to competition and alternative choice for consumers (Atherton, 2004; Bygrave and Hofer, 1991; Cunningham and Lischeron, 1991; Gartner et al., 1989; Mitton, 1989; Sexton and Smilor, 1986; Shane and Venkataraman, 2000; Wilson et al., 2009). This leads to stimulation of economic growth, employment generation, and increased incomes that are important for any country (Birch, 1979; Criscuolo et al., 2014; de Kok and de Wit, 2014; Gibcus et al., 2012; Hessels and van Stel, 2011). The next chapter explores the role of EI in the entrepreneurship process and the evolution of the associated theoretical models.

CHAPTER 4: INTENTIONALITY OF ENTREPRENEURSHIP

4.0 Introduction

The preceding chapter highlights four approaches to understanding entrepreneurship. These include the economic approach, the psychological approach, the sociological approach, and the processual approach. This chapter firstly explores the role of entrepreneurial intention (EI) in the process of entrepreneurship (4.1). Secondly, it highlights the prominent theoretical models of EI and empirical studies in this field (4.2). Thirdly, it identifies areas for further research to facilitate stakeholders' comprehensive understanding of the development of EI (4.3).

4.1 The Role of Intention in the Process of Venture Creation

Several scholars indicate that entrepreneurship is a process involving the discovery, evaluation and exploitation of opportunities to introduce new products or processes, access to new markets and raw materials through organising efforts that previously have not existed (Bruyat and Julien, 2001; Gartner, 1985; Moroz and Hindle, 2010; Sarasvathy, 2001; Sarasvathy and Venkataraman, 2011; Shane, 2003). Shane's (2003) 'nexus of enterprising individual–entrepreneurial opportunity' model is the most comprehensive model of the entrepreneurship process. Other models such as Gartner's (1985) framework of new venture emergence, Bruyat and Julien's (2001) model of new value creation, and Sarasvathy's (2001) dynamic model of effectuation also show a picture of the entrepreneurial process.

Before an entrepreneurial opportunity is consciously searched for, or after the entrepreneurial opportunity is inadvertently stumbled upon, the would-be

entrepreneur should have an intention to engage with the opportunity (Krueger Jr, 2007a). Entrepreneurship includes transforming a new idea into something valuable (Green, 2009; Schramm, 2006). Green (2009) states that entrepreneurship involves three components: a new idea located in an entrepreneurial opportunity, its implementation into an enterprise, and the market's acceptance of the product. Understanding the link between ideas and action is critical for understanding the entrepreneurial process (Bird, 1988; Bird, 1992; Krueger and Carsrud, 1993). However, an individual cannot engage with an entrepreneurial opportunity without an intention to do so. EI is a representation of a future course of action. It is not simply an expectation or prediction of future actions but a proactive commitment (Bandura, 2001; Thompson, 2009).

Intentionality is a state of mind directing a person's attention, experience and actions toward a specific object (goal) or path. Scholars indicate that intention is the most immediate antecedent of a given behaviour (Ajzen, 1991; Bird, 1988; Fishbein and Ajzen, 1975; Zhao et al., 2010a). Although behaviour can result from unconscious and unintended antecedents, what is of interest here is conscious and intended act, the founding of a firm. Even though some entrepreneurial ideas begin with inspiration, intention is required for sustained attention and action. Entrepreneurs' intentions guide their goal setting, communication, commitment, organisation and other kinds of work and effort in the entrepreneurial process (Bird, 1988; Carter et al., 1996; Forbes, 1999; Katz, 1992; Katz and Gartner, 1988; Learned, 1992; Rotefoss and Kolvereid, 2005).

Is all Entrepreneurial Behaviour Planned?

Some scholars have argued against exaggerating the role of intentions in human planned and conscious behaviour (Pickering, 1981; Wegner, 2002). For instance, Davidsson (2004) suggests that there are two main routes to starting one's own

business. Firstly, there are individuals who indeed start with an intention followed by search, evaluation and then exploitation of a specific business opportunity. Secondly, there are individuals who may, by serendipity, develop a product that potentially has demand in the market. This second group is unlikely to report an intention well in advance of actually starting the business (Davidsson, 2004). However, the majority of scholars suggest that although serendipity can sometimes lead to entrepreneurship, EI is fundamental to the entrepreneurial process (Katz and Gartner, 1988; Kautonen et al., 2013; Krueger Jr, 2007b; Rotefoss and Kolvereid, 2005; Shapero and Sokol, 1982; Webster, 1977). This is because empirical evidence indicates that EI has proved to be an important antecedent of entrepreneurial behaviour (Carr and Sequeira, 2007; Hmieleski and Corbett, 2006; Wilson et al., 2007). All forms of entrepreneurship and especially new firms set up by individuals, or groups of individuals, begin with some degree of planned behaviour (Krueger JR et al., 2000; Shook et al., 2003; Thompson, 2009). The GEM indicates that EI correlates positively with business creation in a society (Kelley et al., 2012). Other empirical evidence indicates that individuals with higher EI are more likely to start a business than those with lower or no EI (Henley, 2007; Kautonen et al., 2013).

4.2 Review of Prominent Entrepreneurial Intention Models

Several conceptual models exploring determinants of EI (Bird, 1988; Boyd and Vozikis, 1994; Davidsson, 1995; Krueger and Carsrud, 1993; Krueger, 1993; Krueger and Brazeal, 1994; Lim et al., 2010; Lüthje and Franke, 2003) are primarily based on Shapero and Sokol's (1982) entrepreneurial event (SEE) model, Ajzen and Fishbein's (1991, 2002, 2005) theory of reasoned action and planned behaviour (TPB), as well as Bandura's (1986) social learning theory of self-efficacy. Seminal works such as Shapero and Sokol (1975, 1982), Bird

(1988), Katz and Gartner (1988), Learned (1992), Katz (1992), Forbes (1999) as well as Fishbein and Ajzen (1975) make notable theoretical contributions for understanding the development of EI. To explore how EI models have evolved, three key models are discussed: Bird's (1988) contexts of intentionality model, Shapero and Sokol's (1982) entrepreneurial event model, and Ajzen's (1991) theory of planned behaviour.

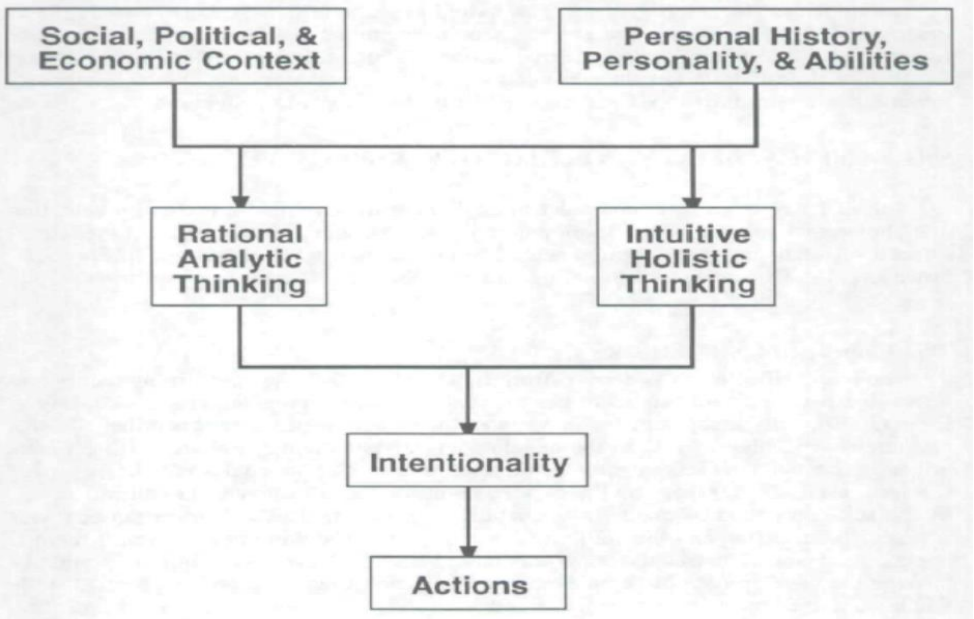
4.2.1 Bird (1988): The Contexts of Intentionality

Bird's (1988) model, developed based on interviews with novice and experienced entrepreneurs, attempts to explain and predict entrepreneurial behaviour. Bird argues that an individual's intention determines whether a venture will be launched or not. It also determines the form and direction of an organisation at its inception. Additionally, organisational success, development, growth, and change are based on EI.

> *"Entrepreneurial intentions, the entrepreneurs' states of mind that direct attention, experience, and action toward a business concept, set the form and direction of organisations at their inception. Subsequent organisational outcomes such as survival, development (including written plans), growth, and change are based on these intentions… the intentional process begins with the entrepreneur's personal needs, values, wants, habits, and beliefs, which have their own precursors. These five antecedents result in intra-psychic activities (i.e. creating and maintaining a temporal tension, sustaining strategic focus, and developing a strategic posture) which are at the core of intentional and behavioural outcomes which contribute to the creation of a new organisation and, in turn, affect the entrepreneur's needs, values, wants, habits, and beliefs."* Bird (1988, p.442)

Bird indicates that her model can be applied to studying the creation of a new venture or the development and growth of an existing venture. Firstly, she suggests that the intentionality process is affected by a combination of both personal and contextual factors. Personal factors include prior experience, history, personality and abilities while contextual factors include social, political and economic variables along with changes in the markets and regulatory framework (Bird, 1988). These personal and contextual factors create the context of

intentionality (Figure 4.1). Secondly, she argues that the personal and contextual factors influence the person's rational, analytical thinking (cause and effect thinking) and intuitive, holistic thinking which structure intention and the consequent actions. These cognitive processes underlie formal business plans, opportunity analysis, resource acquisition, goal setting and the most observable goal-directed behaviour (Boyd and Vozikis, 1994).

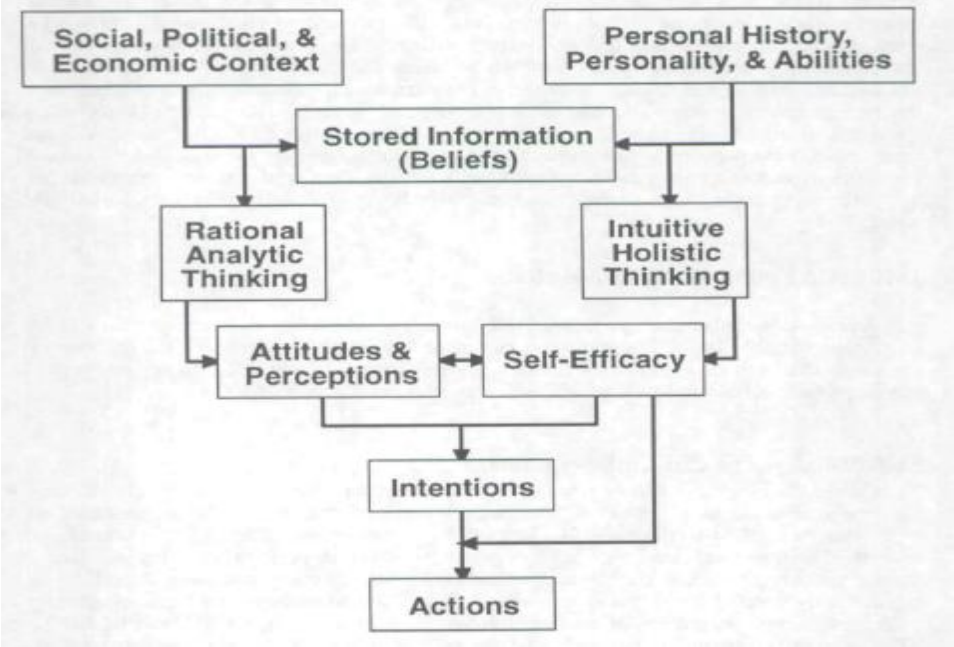


Source: Bird (1988)

Figure 4.1 - Contexts of Intentionality Model

The strength of Bird's model is twofold. Firstly, it explicitly recognises that without intention, an organisation cannot start, let alone succeed (Katz and Gartner 1998). Secondly, it explicitly indicates that personal and contextual factors positively influence the formation and modification of EI (Davidson, 2004; Hindle, 2007). However, in order to explain why some people and not others engage in entrepreneurship, there are a lot more factors that need consideration within and outside the ambit of personal and contextual factors. Additionally, the model hardly suggests any mechanism(s) through which individual and contextual factors influence EI. Consequently, Boyd and Vozikis (1994) attempt to modify Bird's model by incorporating factors that may moderate the influence of personal and

contextual factors on EI such as attitudes and self-efficacy (Figure 4.2). Their proposition is based on Bandura (1977)'s concept of self-efficacy derived from social learning theory. Self-efficacy refers to a person's belief in his or her capability to perform a given task. Choices, aspirations, effort and perseverance are influenced by perceptions of one's own capabilities. Boyd and Vozikis posit that perceived self-efficacy and attitudes will moderate the relationship between EI and the likelihood that these intentions will result in action.



Source: Boyd and Vozikis (1994)

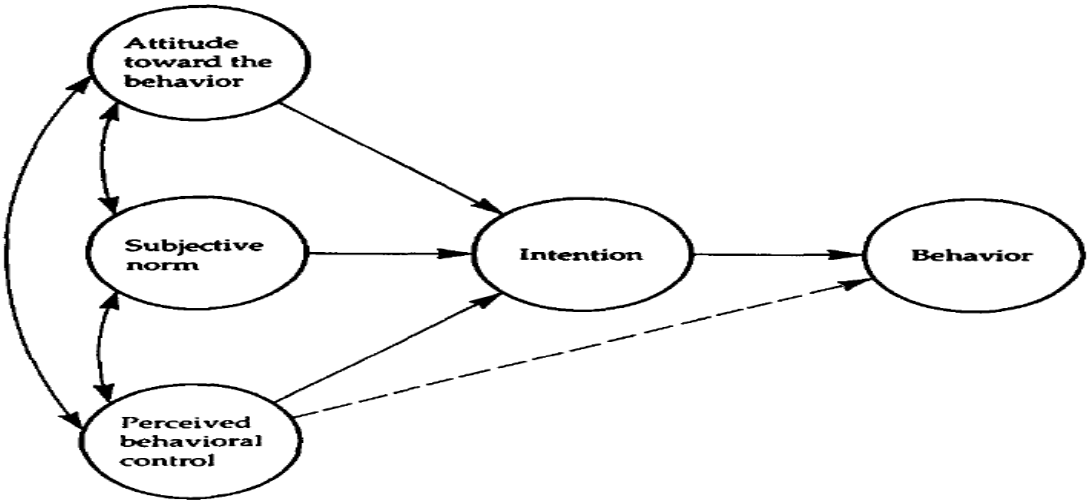
Figure 4.2 - Revised Model for Contexts of Intentionality

Following Bird's revised model, scholars like Luethje and Franke (2003) and Nabi et al. (2010) empirically examine the influence of personality factors (i.e. locus of control and risk taking propensity) as well as perceived barriers and support in the entrepreneurial environment on EI. They conclude that while personality factors influence EI indirectly through attitude toward entrepreneurship, contextual factors influence EI directly. However, these studies do not take into account entrepreneurial self-efficacy, entrepreneurship education, and a broad range of institutional factors (Bruton et al., 2010; Boyd and Vozikis, 1994).

4.2.2 Azjen (1991): The Theory of Planned Behaviour

Ajzen's (1991, 1985) theory of planned behaviour (TPB) follows the theory of reasoned action on beliefs, attitudes and intentions as determinants of human behaviour (Ajzen and Fishbein, 1980; Ajzen, 2011a; Ajzen, 2011b; Bandura, 1982; Bandura, 1993; Bandura, 1977; Fishbein and Ajzen, 1975). The TPB indicates that intention is the best predictor of an individual's behaviour. This is because intention is an indication of how hard an individual is willing to try, of how much of an effort he or she is planning to exert, in order to perform the behaviour. As a general rule, the stronger the intention to engage in a behaviour, the more likely should be its performance (Ajzen, 1991). The TPB also suggests that intention toward a specific behaviour has three immediate antecedents (Figure 4.3): personal attitude towards the behaviour (PA), subjective norm (SN) and perceived behavioural control (PBC). First, "attitude toward the behaviour is the degree to which a person has a favourable or unfavourable evaluation of the behaviour in question" (Ajzen,1991, p.188). 'Do I perceive that this would be a good thing to do?' With regard to entrepreneurship, the intention of launching a new business will be influenced by how personal values and attitudes have been shaped over time.

Second, subjective norm refers to "the perceived social pressure to perform or not to perform a particular behaviour" (Ajzen, 1991, p.188). 'Would people important to me consider this action as a good move?' How friends, relatives or colleagues consider a particular behaviour will affect a person's perception. A study by Falck et al. (2012), based on data from the Organisation for Economic Cooperation and Development (OECD) countries, finds that young people with either a) a parent who is an entrepreneur or b) school peers/friends that have at least one parent who is an entrepreneur, report higher EI.



Source: (Ajzen, 1991)

Figure 4.3 - Theory of Planned Behaviour Model

Thirdly, “perceived behavioural control refers to the perceived ease or difficulty of performing the behaviour of interest…and it is assumed to reflect past experience as well as anticipated impediments and obstacles” (Ajzen, 1991, p.188). ‘Could I do it if I want to?’ With regard to entrepreneurship, it relates to the perception of technical competencies required, the financial risks, the administrative burden and the possessed resources and abilities. Krueger and Dickson (1994) indicate that the higher the perceived behavioural control in relation to new venture creation, the higher the EI.

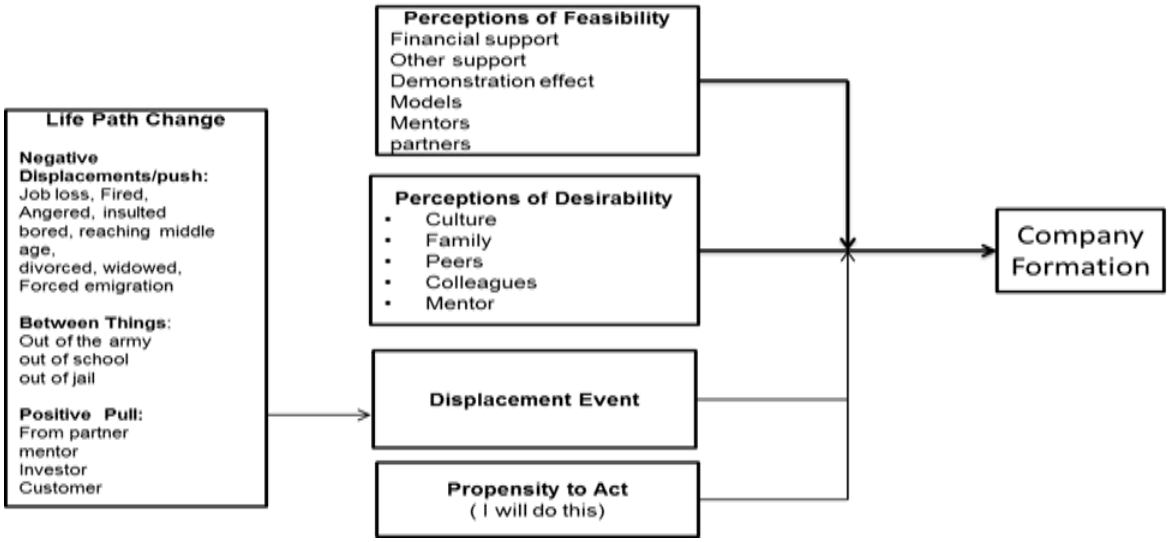
The TPB further posits that subjective norm, attitude toward the behaviour and perceived behavioural control will mediate the effects of any other factors on EI (Ajzen, 2011a). Several studies find empirical support for the TPB in relation to EI (Iakovleva et al., 2011; Krueger JR et al., 2000; Liñán and Chen, 2009; Liñán et al., 2011a; Liñán et al., 2011b; Siu and Lo, 2013).

Criticisms against the TPB are many. Some scholars reject it outright as an adequate explanation of human social behaviour. These scholars argue that conscious and rational choice is not the only signficant basis for an individual’s

behaviour (Wegner, 2002) and view much human social behaviour as driven by implicit attitudes (Greenwald and Banaji, 1995) as well as other unconscious mental processes (Aarts and Dijksterhuis, 2000; Brandstätter et al., 2001; Uhlmann and Swanson, 2004). Most critics, however, accept the theory's basic assumption on reasoned action but question its adequacy (Davidsson, 2004). This is because, based on empirical studies, the correlations between attitudinal antecedents and intention as well as those between intention and actual behaviour range from 40% to 60% (Ajzen, 2011). This means that the explanatory power of the elements in the TPB is significant but limited. The overall criticism of the TPB is that it neither identifies nor examines factors leading to the formation, and perhaps modifications, of the three antecedents of EI, hence, the need for research that explores the possible precursors (Ajzen and Fishbein, 2005; Ajzen, 2011a; Ajzen, 2011b; Davidsson, 1995; Davidsson, 2004; Fishbein and Ajzen, 2011; Hindle, 2007; Hindle and Al-Shanfari, 2011).

4.2.3 Shapero and Sokol (1982): Entrepreneurial Event Model

Shapero and Sokol's model posits that an entrepreneurial event is primarily a function of perceived desirability and feasibility. While perceived desirability depends on the individual's value (attitude) and social systems in which he/she is involved, perceived feasibility is associated with an individual's ability and competence as well as likelihood of support from stakeholders (Shapero and Sokol, 1982). These perceptions determine whether or not the person chooses to engage in company formation (Figure 4.4).



Source: (Shapero and Sokol, 1982)

Figure 4.4 - Shapero and Sokol's Entrepreneurial Event Model

Shapero and Sokol explain perceived desirability as the degree to which a person considers starting a business attractive. Perceived feasibility is the degree to which one believes he/she is capable of starting a business. Shapero and Sokol explain "propensity to act" as the personal disposition to act on one's decisions, thus, reflecting volitional aspects of intentions ("I will do it"). They argue that it is hard to envisage well-formed intentions without some propensity to act. Conceptually, propensity to act on an opportunity depends on control perceptions: that is, the desire to gain control leading to actions. Shapero and Sokol further suggest that propensity to act is equivalent to internal locus of control (Chen et al., 1998).

Shapero and Sokol's model assumes that every individual has a tendency to continue with his or her current behaviour until one encounters a "displacement event". Usually a displacement is either a positive (pull) or negative (push) event. The bottom line is that a displacement precipitates a change in behaviour where the decision maker seeks the best opportunity available from a set of alternatives. For stance, completion of undergraduate studies compels graduating students to consider the best opportunity available among a set of alternatives. Graduating

students' alternatives typically include organisational employment, starting a business or embarking on further studies. Such a decision is made based on what an individual perceives to be desirable and feasible (Krueger et al, 2000; Shapero and Sokol, 1982).

As with the TPB, exogenous factors do not directly affect an individual's intention or behaviour. They operate through perceived desirability and feasibility. Empirical evidence indicates that perceived feasibility and desirability as well as the propensity to act explain over half of variance of EI (Krueger JR et al., 2000; Krueger, 1993; Peterman and Kennedy, 2003).

4.2.4 Comparison of TPB and SEE Models

The theory of planned behaviour (TPB) and Shapero and Sokol's entrepreneurial event (SEE) models have been found by several studies as overlapping in two aspects. Firstly, the SEE model's perceived desirability is equivalent to the TPB model's attitude towards the behaviour and subjective norms. Secondly, the SEE model's perceived feasibility is not only equivalent to the TPB model's perceived behavioural control but also entrepreneurial self-efficacy (Bandura, 2001; Chen et al., 1998; De Noble et al., 1999; Krueger and Brazeal, 1994; McGee et al., 2009). Furthermore, both models suggest that contextual factors would influence intention through attitudes and self-efficacy (Fayolle and Gailly, 2004; Fayolle et al., 2006b; Krueger JR et al., 2000; Peterman and Kennedy, 2003; Zhao et al., 2005). However, there is a shortage of studies investigating these aspects in an integrative manner (Davidsson, 2004; Fayolle and Liñán, 2014). Some scholars do not bother to consider contextual factors because their effects are already reflected in perceived feasibility and desirability anyway (Krueger JR et al., 2000). It should also be noted that various studies use different measures as there are no standard measurement instruments for EI and its attitudinal antecedents (Liñán

and Chen, 2009; Thompson, 2009). This hinders the theory development. In an attempt to integrate the TPB and SEE models, Schlaegel and Koenig (2014) conduct meta-analysis of 92 empirical studies. The authors find that, when using the TPB, the combined influence of attitude to the behaviour (ATB), subjective norms (SN), entrepreneurial self-efficacy (ESE), and perceived behavioural control (PBC) on EI is significant. When using the SEE model, propensity to act, perceived desirability and feasibility have a significant combined influence on EI. When all the attitudinal determinants from the two models are included in the analyses, the increase in combined influence is also significant. The authors conclude that EI is primarily a function of perceived feasibility and desirability of entrepreneurship, confirming similar conclusions by other scholars (Fitzsimmons and Douglas, 2011).

4.3 Further Development of the EI Model Required

Since the foundational works by Shapero (1975), Shapero and Sokol (1982), Bird (1988), as well as Katz and Gartner (1988), several empirical studies have focused on EI. Yet there has been growing concern about the inconclusive findings of the relationship between EI and its determinants. Scholars indicate that the field is fragmented and lacks theoretical clarity and empirical evidence, and they encourage research to develop integrative models of EI, which may enhance the explanatory power and theoretical clarity (Fayolle and Liñán, 2014; Krueger, 2009; Schlaegel and Koenig, 2014; Shook et al., 2003).

Specifically, integrative models are requested to test institutional and individual factors as well as educational interventions in different contexts (Dohse and Walter, 2012; Fayolle and Liñán, 2014; Nabi et al., 2010; Nabi and Liñán, 2011; Rideout and Gray, 2013; Siu and Lo, 2013). It is also necessary to understand

how perceived feasibility and desirability are formed. In the literature, there is a continued critique against the basic EI model that it neither identifies nor examines factors leading to the formation, and perhaps the modification, of perceived feasibility and desirability. Indeed although the basic EI model has empirically shown significant explanations, it does not show the full picture. Other individual and environmental factors that may have a role in new venture creation should be explored (Ajzen, 2011b; Alvarez et al., 2011; Bae et al., 2014; Davidsson, 1995; Davidsson and Wiklund, 1997; Davidsson, 2004; Fayolle et al., 2006a; Rideout and Gray, 2013; Siu and Lo, 2013).

Furthermore, scholars observe that determinants of EI are researched in isolation from each other. Hence, scholars call for studies that examine how factors at the individual and institutional levels are combined in shaping EI (De Clercq et al., 2011; Fayolle and Liñán, 2014; Hitt et al., 2007; Hitt et al., 2007; Krueger, 2009; Shane and Venkataraman, 2000; Shook et al., 2003; Walter et al., 2011). A cross-level approach may address inconsistent findings on determinants of EI (Cope, 2005; Fayolle and Liñán, 2014; Gartner, 1989a; Hindle et al., 2009; House et al., 1996; Krueger, 2009; Martínez et al., 2010; Mitchell et al., 2007; Wang and Chugh, 2014).

Reflecting on EI Models and Choice for This Study

Bird's (1988) model indicates that personal and contextual factors positively influence the formation of EI. However, the model hardly suggests any mechanisms through which individual and contextual factors influence EI. In addition, the model has not been empirically validated/tested. Boyd and Vozikis (1994) suggest a revision to Bird's model to include attitudes, perceptions and beliefs as moderators. However, Boyd and Vozikis' revision does not include the influence of EE. Neither has it been empirically tested. Further to the empirical

work by Krueger et al. (2000) assessing the relative usefulness of the TBP and SEE models in predicting EI, Schlaegel and Koenig (2014) conduct meta-analysis of 92 studies. The authors conclude that EI is primarily a function of perceptions of feasibility and desirability of entrepreneurship, confirming similar conclusions by other scholars (Fitzsimmons and Douglas, 2011; Linan et al., 2011). Therefore this study chooses to employ the SEE model as the foundation for exploring determinants of EI. As indicated earlier, the SEE model posits that perceptions of feasibility and desirability of a particular behaviour are the immediate antecedents of intention to engage in that behaviour. And that the intention is the best predictor of the behaviour. However, to address the limitations of the model as indicated earlier, Schlaegel and Koenig (2014, p.320) observe that "it would be meaningful for future research to explore the contingent roles of formal institutional context (laws, regulations and policies) as well as the informal institutional context (culture, norms and values)… to offer great insights into the context-specific development of EI''. Similarly other scholars call for development and testing of integrative multi-level models that consider individual and contextual factors to enhance explanatory power and theoretical clarity.

4.4 Conclusions

This chapter has discussed the role of EI in the process of entrepreneurship. All forms of entrepreneurship and especially new firms set up by individuals or groups begin with some degree of planned behaviour. EI is an important measure of potential entrepreneurship in a society. However, there has been growing concern about the inconclusive findings on EI and its determinants. Scholars recommend future research should build up and test integrative models of EI to understand this core concept of entrepreneurship. The next chapter reviews literature on

entrepreneurship education (EE) and its role in influencing EI and the consequent behaviour.

CHAPTER 5: ENTREPRENEURSHIP EDUCATION – IMPORTANCE, TYPES AND EFFECTS

5.0 Introduction

The preceding chapter discusses the role of entrepreneurial intention (EI) in the process of entrepreneurship. This chapter reviews literature on entrepreneurship education (EE) and its role in the development of entrepreneurial skills, knowledge and attitudes that are expected to influence entrepreneurial intention and behaviour. Specifically, the chapter discusses the importance of entrepreneurship education (5.1), the types of entrepreneurship education (5.2), and the impact of entrepreneurship education on EI (5.3).

5.1 Importance of Entrepreneurship Education

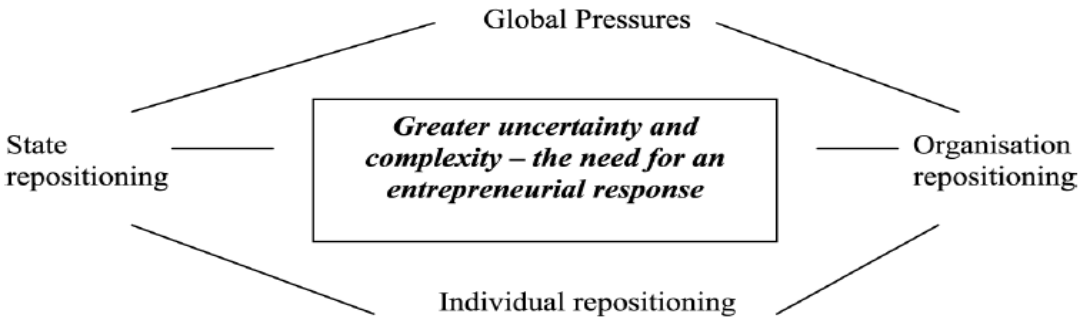
Generally, education is a lifelong process of developing the powers of reasoning and judgement as well as preparing individuals for life (Matheson, 2008). Specifically, formal education is a structured process in which knowledge, skills, attitudes, character and behaviour of a person are shaped and moulded (Kolb et al., 2001; Krathwohl and Bloom, 2002; Matheson, 2008). Scholars indicate that education is a mirror of society since it reflects societal priorities. Therefore, whenever the needs of society change, its education system changes accordingly. Since education's aims and methods depend on the nature of the society, certain factors are expected to shape the emphases of education. These may include socio-cultural conditions, geographical position, economic conditions, political/government policies as well as philosophy (Matheson, 2008; Wilson et al., 2009; Gibb, 2007).

Wilson et al. (2009) claim that entrepreneurship is the engine fuelling innovation, employment generation and economic growth. Considering the power that education has in developing the skills that generate an entrepreneurial mind-set and in preparing future leaders for solving more complex, interlinked and fast-changing problems, it is clear that enterprise education is important (Wilson et al., 2009). Mitra (2011) suggests that there is need to integrate the acquisition of entrepreneurial competencies and 'soft skills' such as creativity, initiative and persuasion in the curriculum across all ages and subjects. This implies a shift from the traditional emphasis on evaluating the ideas of others to generating and implementing one's own ideas (Mitra, 2011). Mitra (2011) further notes that whatever the definition of entrepreneurship, it is closely associated with change, creativity, knowledge, innovation and flexibility, which are important sources of competitiveness in an increasingly globalised world economy (Mitra, 2011). The world is changing fast. The number of people working in small firms or who are self-employed has grown sharply, while jobs in the public sector and large firms are cut back (Galloway et al., 2005; Rae et al., 2012). These trends seem set to continue. Young people seeking jobs need to be more flexible and entrepreneurial. Even in larger firms, public and voluntary sectors, entrepreneurial skills are more highly valued than they were in the past (CBI - NUS, 2011; Davies, 2002). Thus, the education systems are playing an important role in developing people for the changing world of work and employability.

Specific Pressures Moulding the Need for Entrepreneurial Skills

In the challenging economic environment, entrepreneurial skills can be beneficial (Collins et al., 2004b; Robertson et al., 2003; Woodier-Harris, 2010). The challenges continue to create greater uncertainty and complexity confronting people at four levels: global, societal, organisational, and individual levels (Fayolle, 2007; Gibb, 2007). Firstly, at the global level, the reduction of trade barriers to

international business, standardisation of goods and services, in conjunction with the advancements in technology, all combine to provide more competition, opportunities as well as uncertainties. Secondly, in countries with open market economies, privatisation, reduced welfare and social security spending, high unemployment and mounting environmental concerns, there are greater complexities and uncertainties. Thirdly, at the organisational level, the need for restructuring and re-engineering for efficiency and effectiveness, as well as the growing demand for flexibility in the workforce, lead to an uncertain climate. Lastly, at the individual level, there is a wider variety of sources of employment uncertainty such as more responsibility at work and more stress, more short term contracts and few employment opportunities. Figure 5.1 reflects the interaction of these pressures in creating complexity and uncertainty at all levels of human endeavour.



Sources: (Gibb and Cotton, 1998a; Gibb, 2007; Gibb and Cotton, 1998b)

Figure 5.1 - Education and the Changing World

Given the foregoing sources of uncertainty and complexity, the need for an entrepreneurial response is apparent. Entrepreneurial knowledge, skills, attributes, values and behaviours may enable people to deal with challenges and uncertainties. Furthermore, whatever their career choice or personal situation, through the study of entrepreneurship, individuals will be able to benefit from

learning innovative approaches to problem solving, adapting to change, and becoming more self-reliant and developing their creativity (Gibb, 2007). There is no doubt that under any economic climate such learning could have far reaching benefits for society. It could be argued, therefore, that the need for entrepreneurship education and training has never been greater (Hytti and O'Gorman, 2004).

Moreover, national competitive advantage is increasingly dependent on the skill base of the workforce and more specifically on the ability for both individuals and firms to engage in innovative and new economic activities (Child and McGrath, 2001; Hytti and O'Gorman, 2004). This has resulted in the need for general enterprising skills required for innovative, proactive and problem solving behaviour as well as specific entrepreneurial skills required for new venture creation, management and growth (Gibb, 2007; Henry, 2013; Williams and Turnbull, 1997). Thus, in many countries, enterprise education is becoming an important part of industrial policy and education policy.

5.2 Types of Enterprise and Entrepreneurship Education

Scholars argue that there is a difference between 'enterprise' and 'entrepreneurship' and similarly between 'enterprise' and 'entrepreneurship' education. For example, scholars often ask the question "are they trying to develop enterprising graduates or entrepreneurial graduates?" (Kirby, 2004). This query implies that it is necessary to distinguish between the broader meaning of enterprise education and the narrow meaning of entrepreneurship education (Henry et al., 2003). Specifically, some scholars perceive enterprise education as a process of equipping students (or graduates) with an enhanced capacity to generate ideas and the skills to proactively make them happen. Others believe

entrepreneurship education is a process that equips students with the additional knowledge, attributes and capabilities required in the context of setting up, managing and growing a new venture or business (QAA, 2012; Rae et al., 2012; Williamson et al., 2013). Numerous scholars (Hills, 1988; Jamieson, 1984; Mcmullan and Long, 1987) highlight the variety of approaches/paradigms of entrepreneurship education with variations in content, learning methods and goals. These approaches broadly comprise education 'through' enterprise, education 'in' entrepreneurship, education 'about' entrepreneurship, and education 'for' entrepreneurship (Béchard and Grégoire, 2005; Blenker et al., 2011; Honig, 2004).

5.2.1 Enterprise and Enterprise Education

Enterprise is defined as the application of creative ideas and innovations to practical situations (Rae et al., 2012). It combines creativity, idea development, initiative, independence and problem solving with communication and practical action. This definition is distinct from the generic use of the word in reference to a project or business venture (Bridge et al., 2009; Gibb, 2000). Education "through" enterprise embraces teaching approaches/styles which require idea generation and action-based learning (entrepreneurial situations) as part of the education process. Consequently, enterprise values, attitudes and behaviours are learnt through the process (De Faoite et al., 2003; Hannon, 2005; Matlay and Mitra, 2002). Gibb (2007) provides a framework of entrepreneurial behaviours, skills, attributes and values that enterprise education should attempt to develop/enhance.

Table 5.1 - Entrepreneurial Behaviours, Attributes, Skills, Values and Beliefs

1. Entrepreneurial Behaviours • opportunity seeking and grasping • taking initiatives to make things happen • solving problems creatively • managing autonomously • taking responsibility for, and ownership of, things • seeing things through • networking effectively to manage interdependence • putting things together creatively • using judgement to take calculated risks	**3. Entrepreneurial Attributes** • achievement orientation and ambition • self-confidence and self-belief/ esteem • perseverance • high internal locus of control (autonomy) • action orientation • preference for learning by doing • hardworking • determination • creativity
3. Entrepreneurial Skills • creative problem solving • persuading • negotiating • selling • proposing • holistically managing business/ projects/ situations • strategic thinking • intuitive decision-making under uncertainty • networking • emotional intelligence	**4. Values and Beliefs** Entrepreneurship is embodied in sets of values and beliefs relating to: • ways of doing things • ways of seeing things • ways of feeling things • ways of communicating things • ways of organising things • ways of learning things

Source: (Gibb, 2007)

As shown in Table 5.1, the purpose of education 'through' enterprise is to develop entrepreneurial behaviours, skills, attributes and values of individuals. This is necessary for coping with change and innovation so that individual and organisational goals can be achieved. This conceptualisation embraces organisations and work of all kinds; it is not a function of business activity alone. There are social entrepreneurs, educational entrepreneurs, religious entrepreneurs, and entrepreneurs in a range of nongovernmental organisations. Thus, it is possible to encourage entrepreneurial behaviour through action-based learning within the context of the standard curriculum subjects such as language and literature, mathematics, geography, history and science. Furthermore, scholars often acknowledge that while education should play its role, the development of an individual is influenced by many factors at different stages of life (Falck et al., 2012; Hindle, 2002; Hindle and Al-Shanfari, 2011). These include

parental education, family values and goals, interactions with the wider social and economic environment, role models and the education one receives at primary, secondary and tertiary levels (Dohse and Walter, 2012; Gibb, 2007; Gibb, 2002; Kuratko, 2003).

5.2.2 Entrepreneurship and Entrepreneurship Education

Entrepreneurship is the application of enterprise skills and ideas specifically to creating and growing a venture by identifying, evaluating and exploiting opportunities (QAA, 2012; Rae et al., 2012). Entrepreneurship education (EE) is different from enterprise education in two major ways. Firstly, unlike enterprise education which refers to the process of equipping students with an enhanced capacity to generate ideas and the skills to proactively make them happen, EE applies these skills in the specific context of new venture creation. Therefore, EE equips students with the additional knowledge, attributes and capabilities required in setting up a new venture, usually a business. Secondly, while enterprise education can be provided as a pedagogical approach in any subject, EE is only provided through a module/course/programme that focuses on starting, managing and growing a new venture (Draycott and Rae, 2011; QAA, 2012; Williamson et al., 2013).

Three types of entrepreneurship education can be identified. Firstly, education ‘in’ entrepreneurship deals mainly with entrepreneurship and management development training for nascent and established entrepreneurs. It focuses on developing knowledge and skills for ensuring survival, growth and future development of the business (Blenker et al., 2011; Kirby, 2004). Secondly, education ‘about’ entrepreneurship informs students about the nature of business, innovation and small business management and their role in economic activity (Levie, 1999). It deals mostly with awareness creation and has the specific

objective of educating students on the various aspects of setting up and running a business mostly from a theoretical perspective (Gibb and Hannon, 2005). These courses tend to be taught in a traditional manner through lectures, textbooks, and essays, and are assessed in assignments and end of course/module written examinations (Edwards and Muir, 2005). Such courses may encourage students to consider entrepreneurship as a career (Kirby, 2004). Thirdly, education 'for' entrepreneurship deals more with the preparation and development of competencies and understanding of the practical processes in new venture creation, management and growth (Levie, 1999). Participants are encouraged to set-up and run their own businesses. These courses have educational activities that stimulate and promote the development of entrepreneurial knowledge, skills and attitudes through self-directed experiential learning. The practical educational activities may include learning through projects, experiences, placement in a small business, appropriate work placement and simulated entrepreneurial activity (Cresswell, 1999; De Faoite et al., 2003; Henry et al., 2005a).

5.2.2.1 Debate on whether or not Entrepreneurship can be Taught

The foregoing discussion on the different types of entrepreneurship education implies that there is 'no one size fits all'; when designing a module/course or programme, there is a need to consider the intended learning outcomes/objectives as well as the learning content and approaches that would best achieve those outcomes (Blenker et al., 2011; Hills, 1988). The focus of the current research is education 'for' and 'about' entrepreneurship because the major aim is to investigate the effect of EE on the intention to start a business after graduation. Thus, for this research, EE is the transfer of knowledge and skills about how, by who and with what to create future goods and services (Hindle, 2007; Martinez et al., 2010).

Over the years, educators and professionals' perspectives have evolved beyond the myth whether entrepreneurs are born or made. There is a perception that some innate abilities/personality attributes relevant to entrepreneurial tasks and roles cannot be taught (Bolton and Thompson, 2002; Hindle, 2007; Klein and Bullock, 2006). However, it has become clear that certain aspects of entrepreneurship such as the practical processes of new venture formation, acquisition and management of resources can be taught (Hindle, 2007; Klein and Bullock, 2006; Kuratko, 2003). Additionally, other aspects such as opportunity identification, creativity and alertness can also be enhanced through experience. For example, scholars find that experienced entrepreneurs are better at identifying opportunities (Klein and Bullock, 2006; McGrath and MacMillan, 2000).

Over the decades, not only has EE established itself as a legitimate field of research, it has also been recognised as a taught discipline area within higher education (Henry, 2013; Matlay, 2009; Pittaway and Cope, 2007). Nevertheless, there remains considerable debate around what should be taught, how it should be taught and who should actually teach it (Hindle, 2007; QAA, 2012; Wilson et al., 2009). Additionally, alongside the idea of what, how and who, the fundamental question of why entrepreneurship should be taught (related to "can entrepreneurship be taught") keeps re-emerging (Henry et al., 2005a; Henry et al., 2005b; Henry, 2013). Some scholars argue that the why question is now obsolete, having been asked and answered in earlier seminal works (Clark et al., 1984; Drucker, 1985; Kuratko, 2005). Two major strands of rationale are established. Firstly, EE helps students to become more enterprising thereby preparing them for the uncertain and complex world of work (Gibb and Cotton, 1998). Secondly, EE helps develop individuals' capacity for generating and analysing business ideas, identifying and exploiting opportunities (CBI - NUS, 2011; QAA, 2012; Wilson et

al., 2009). In relation to the legitimate question of how entrepreneurship could be taught (Henry, 2013; Kuratko, 2003; Ronstadt, 1990), some scholars suggest that entrepreneurship is something one learns by doing (Van der Sijde, 2008). David Birch, the prominent American scholar whose work first produced the evidence that small and new businesses created the lion's share of employment (80 - 85% of all new jobs from 1969 to 1975 in the US), said:

> *"…However, if you want to encourage entrepreneurship, it should be through some kind of apprenticeship. That would be a wonderful experience."* (quoted in Aronsson, 2004, p.289)

The above quote indicates that entrepreneurship may not be taught and learnt adequately through the traditional way of delivering. There is a need to emphasise a practical mode of instruction; there should be opportunities for learning in an active environment where the individual has hands-on business environment experience (Aronsson, 2004). However, the scope for practical experience in university education is limited; '…to teach individuals to become not only more enterprising but also businessmen and women …is an undertaking that in both time and scope is beyond the capabilities of an academic business school' (Johannisson, 1991). Consequently, other scholars argue that entrepreneurship theory and practice are interwoven (Fiet, 2001; Rae, 2007b). Hindle (2007) suggests that in EE, there is the need to distinguish teaching the practice of entrepreneurship (teaching it i.e. the vocational domain) from teaching about the phenomenon (its theories) and the way it impacts on other phenomena. Fiet (2001) argues that one way to add more theoretical content to entrepreneurship courses is to teach students what they ought to do and why (theory). A focus on practice and action-based learning only (non-theoretical) has limited usefulness as a guide for instructing potential and aspiring entrepreneurs about their prospects for future success. This is because while the context and the experiences may

change, relationships between variables (theories) may remain relatively stable over time. Thus, a university should teach theory first before endeavouring to engage the students in practice. Once the theory is understood, then the practice will have a lot more meaning (Hindle, 2007; Martin et al., 2013; Pedler, 2012; Whitehead, 1967).

5.2.2.1.1 Curriculum, Delivery Approaches and Uptake of EE

There is often a challenge when attempting to consider the quantity and quality of EE because of diversity in curriculum (content, breadth and depth), pedagogical approaches, and level of offering whether at post-graduate level, undergraduate level, nascent/fledgling entrepreneur level or indeed whether it is a full programme or merely a module/course (Blenker et al., 2011; Henry et al., 2003; Henry, 2013; Hills, 1988; Van der Sijde, 2008). As indicated earlier, this study focuses on EE whose purpose is to develop skills and knowledge in new venture creation (Edelman et al., 2008), management and growth (Blenker et al., 2011; Henry et al., 2005; Rideout and Gray, 2013).

In relation to curriculum, the Global Entrepreneurship Monitor (GEM) suggests that there is a need to consider the nature, adequacy and level of offering of EE (Martinez et al., 2010, p.12, p.31). In particular, EE has the objective of developing skills and knowledge required for new venture creation, management and growth. This is generally accepted as the dominant focus of EE (Blenker et al., 2011; Rideout and Gray, 2013). It has its heritage from two fields. One is Schumpeter's (1934) and Kirzner's (1997) neo-classical approach focusing on the entrepreneur's function in innovation and opportunity recognition. The other is from traditional management theory, in which management control and planning are perceived as the central vehicles for entrepreneurs to use to adapt to the external environment (Arasti et al., 2012). In this vein, EE contents often come from an integration of

marketing (Kotler, 2011; Kotler and Armstrong, 2013), strategy (Porter, 1980), budgeting/financing and implementation analytical frameworks such as the SWOT (strength, weaknesses, opportunities and threats) (Andrews, 1971; Johnson et al., 2011).

Therefore, training of students in new venture creation consists of a rational planning process which considers the relationship between an entrepreneur's prospective or actual new venture and its environment (Blenker et al., 2011; Hindle, 2007; Sarasvathy, 2001). This planning and decision making process is typically expressed in various types of models which illustrate how the potential entrepreneur, as a decision-maker, should progress through a series of stages, gradually gather and analyse relevant information and make rational, informed decisions (McGee et al., 2009; Rotefoss and Kolvereid, 2005). Other scholars suggest that besides the business planning skills, other high level entrepreneurial capabilities in facilitating business growth, building an entrepreneurial team, enabling intellectual property generation and commercialisation, and accessing venture capital are also crucial (Blenker et al., 2011).

In terms of empirical research, there is a shortage of evidence as to whether educators are actually helping students in skill and knowledge development (Edelman et al., 2008). This observation is grounded in the notion of relevance (Wilson and Sperber, 1992). A handful of prior studies in developed countries attempt to establish a benchmark of entrepreneurial capabilities to be developed in EE (Carter et al., 1996; Delmar and Shane, 2002; Gatewood et al., 1995; Rotefoss and Kolvereid, 2005). The findings of these studies include:

- Strand 1: Business Planning involving defining and identifying market opportunities/ customers, competitors, and preparing a business plan,

developing product/service, conducting market research, managing (organising and controlling) start-up team, looking for and acquiring facilities/equipment, and being devoted full time to the business;

- Strand 2: Financing the new firm which involves identifying and organising required debt and equity financing. This includes saving money to invest, investing own money, applying for/receiving bank or government funding, preparing and evaluating financial statements, opening and managing relations with financial institutions for the new business; and

- Strand 3: Interaction with the external environment includes formal business registration (registering with legal authorities), applying for licences, patents, etc., hiring and managing employees, establishing and managing relationship with suppliers and customers, sales promotion activities, receiving payments from sales and generating positive net income.

A study by Edelman et al (2008) compares EE curriculum obtained from educators in USA based institutions of higher education as well as practices and capabilities of nascent entrepreneurs. The study finds support that EE largely helps students to develop the required start-up capabilities exhibited by nascent entrepreneurs. However, there is a lack of evidence from developing countries (Fayolle and Liñán, 2014).

In relation to delivery approaches, scholars indicate that the link between pedagogical approaches (Johannisson, 1991; Johannisson et al., 1998; Souitaris et al., 2007) and outcomes of EE such as EI is unclear (Fayolle and Liñán, 2014). In addition, prior research indicates a shortage of measures to assess the EE delivery approaches (Rideout and Gray, 2013; Souitaris et al., 2007). Scholars who emphasise that entrepreneurship practice and theory are interwoven often

recommend the learning cycle introduced by Kolb (1984) as a teaching approach in EE. According to this learning cycle, there are four connected phases (Kolb and Kolb, 2005; Kolb, 1984; Kolb et al., 2001): i. conceptualization (learning from theory/models/abstraction); ii. experimentation (bringing what has been learned into practice); iii. concrete experience (doing and experiencing); and iv. reflection (reflecting on the experience). Van der Sijde (2008) and Neck and Greene (2011) recommend that effectiveness of EE would be dependent on the extent to which the phases of the experential learning cycle are covered.

In line with Kolb's learning cycle, scholars in EE generally suggest that a combination of various pedagogical practices would be more effective in developing entrepreneurial capabilities (Herrero and van Dorp, 2012; McMullan and Boberg, 1991; Souitaris et al., 2007). Such approaches would include lectures, case studies, guest entrepreneur presentations, internships/placements, business simulations, problem-based learning and, if possible, actual venture creation (Krueger Jr, 2007b; Krueger Jr, 2009; Mauer et al., 2009; Neck and Greene, 2011; Stumpf et al., 1991).

In relation to the uptake of EE, how wide-spread EE is to the population should be considered (Martinez et al., 2010, p.12, p.31). This is an indicator of how well EE is received by different stakeholders (Matlay, 2009). The GEM special report on EE indicates that generally innovation-driven economies have higher proportions of the working age population trained in entrepreneurship than factor-driven and efficiency-driven economies (Martinez et al., 2010). For instance, as indicated in subsection 2.4.3, the average undergraduate student engagement rate in Europe is at 23% (UK is 16%). However, for a developing country such as Zambia, the undergraduate student engagement rate is a paltry 5%. Scholars indicate that there is a need to generate unequivocal evidence about the effect of EE on

entrepreneurial outcomes in order to promote the uptake of EE (Rideout and Gray, 2013). The next section (5.3) explores empirical literature on the effects of EE on EI.

5.3 Effects of Entrepreneurship Education on Entrepreneurial Intention

Graduate entrepreneurship is concerned with the extent to which graduates as products of university education engage in new venture creation or self-employment (Luethje and Franke, 2004; Nabi and Holden, 2008; Nabi and Liñán, 2011). Since EE and business start-up support by government and other stakeholders are investments toward graduate entrepreneurship, scholars continue to call for theory grounded research to determine return on investments (Nabi et al., 2010; Rae et al., 2012). Table 5.2 shows approaches suggested by scholars on how to evaluate the impact of EE.

Table 5.2 - Entrepreneurship Education Effectiveness Evaluation Framework

Timing of Measurement	Relevant Criteria
During the Entrepreneurship Education Programme (EEP)	• Number of students enrolled (engagement rate) • Number and type of courses/modules • General awareness of and interest in entrepreneurship
Shortly after the EEP	• Intentions to act • Acquisition of knowledge, skills and inspiration • Development of entrepreneurial self-diagnosis abilities i.e. self-perception of learning and capability
Between Zero and five years after EEP	• Number and type of ventures created • Number of buyouts/acquisitions • Number of entrepreneurial positions sought and obtained
Between three and ten years after EEP	• Sustainability/survival and reputation of the firms • Level of innovation and capacity for change exhibited by the firms
More than ten years after the EEP	• Contribution to society and the economy e.g. taxes, employment, competition, social responsibility, innovation, products/services, etc. • Business performance • Level of satisfaction with career

Source: (Block and Stumpf, 1990; Henry et al., 2004; Jack and Anderson, 1998; Jack and Anderson, 1999; Storey, 2000)

Theoretically, two perspectives suggest that EE may be positively related to entrepreneurial intention and behavioural outcomes (Morris et al., 2013; Vanevenhoven and Liguori, 2013). Firstly, human capital theory predicts that

individuals who possess higher levels of knowledge, skill, and other competences will achieve higher performance outcomes (Becker, 1962; Ployhart and Moliterno, 2011; Unger et al., 2011). There may be a positive relationship between performance and human capital assets specific to entrepreneurship. Secondly, based on social cognitive theory (Bandura, 1993; Chen et al., 1998; McGee et al., 2009), entrepreneurial self-efficacy relates to the belief in one's abilities to successfully perform the various roles and tasks of entrepreneurship. EE is expected to help develop entrepreneurial self-efficacy through (1) enactive mastery – action-based learning, (2) vicarious experience - learning from case studies and guest entrepreneurs, 3) verbal persuasion - encouragement and theory, and (4) emotional arousal - inspiration (Hindle et al., 2009; Zhao et al., 2005). Higher entrepreneurial self-efficacy is expected to lead to higher EI and other entrepreneurial outcomes (Fitzsimmons and Douglas, 2011; Schlaegel and Koenig, 2014).

There is a small but growing body of empirical research regarding the effect of EE on EI. The nature of this body of research suggests mixed and inconsistent conclusions[10] (Bae et al., 2014; Küttim et al., 2014; Williamson et al., 2013). Moreover, only a few studies investigate the effect of EE on EI via perceived feasibility and desirability of entrepreneurship (Souitaris et al., 2007; Fayolle et al., 2006; Nabi et al., 2010). On the one hand, some studies find that EE has a positive impact on EI (Fayolle et al., 2006a; Fayolle and Gailly, 2009; Fretschner and Weber, 2013; Gibcus et al., 2012; Sánchez, 2013; Souitaris et al., 2007). These studies suggest that EE may cultivate a student's attitudes and intention,

[10] For a comprehensive summary of empirical studies reviewed for the period between 2002 and 2014 see Appendix 10.1

which would ultimately lead to actual business start-up (Liñán, 2008). Martin et al. (2013) in meta-analyses of 42 independent studies find small but statistically significant relationships between EE and human capital outcomes, such as entrepreneurship-related knowledge and skills (r_w =0.237), a positive perception of entrepreneurship (r_w =0.109), and EI (r_w =0.137). Based on longitudinal data from undergraduate students in UK and France, Souitaris et al. (2007) find that while entrepreneurship knowledge and skills are not significant determinants of EI, inspiration has a significant influence on EI. In France, Fayolle and Gailly (2009) carry out a longitudinal study of engineering undergraduate students participating in different EE modules lasting 1 day, 3 days or 7 months. Their findings indicate that only undergraduate students without any prior entrepreneurial exposure show significant change in EI after the EE modules. Additionally, they find that participants with longer EE duration have higher EI. Their results imply that individual factors may influence the effect of EE on EI, an aspect of research that is lacking in extant literature.

Based on longitudinal data from undergraduate students before and after EE in a module premised on education 'about' entrepreneurship, Fretschner and Weber (2013) in Germany find that EE is significantly positively associated with desirability but not feasibility of entrepreneurship. Their conclusion is that EE influences EI through perceived desirability but not perceived feasibility of entrepreneurship. In a study of EE alumni and a control group for graduates of 9 universities from 9 European countries, Gibcus et al. (2012) find that EE alumni have significantly higher positive perception of entrepreneurship, entrepreneurial knowledge and skills although the difference in entrepreneurial self-efficacy is not significant. EE alumni have higher proportions of self-employed individuals (16% vs 10%) and entrepreneurs (8% vs 3%) than the control group. Among those who

start businesses, the EE alumni start within 0.7 years of graduation while the control group start after 2.8 years from graduation. In addition, the EE alumni entrepreneurs have higher turnovers and innovation in their businesses than the control group entrepreneurs.

Furthermore, the GEM conducts a cross-sectional survey of working age adults, 16-64 years old, on the effect of entrepreneurship training on entrepreneurial outcomes from 38 countries in different phases of economic development. The survey includes 6 factor-driven economies i.e. economies largely dependent on primary and extractive industries (e.g. Egypt), 17 efficiency-driven economies i.e. economies characterised by industrialisation and reliance on economies of scale (e.g. South Africa), and 15 innovation-driven economies i.e. economies whose industrial activity is characterised by sophistication and variety as well as intensity in knowledge, research and development (e.g. the UK)[11]. The GEM findings indicate that training increases awareness, self-efficacy and intentions but does not influence fear of failure and capacity in opportunity recognition (Martinez et al., 2010). Additionally, early stage entrepreneurial activity is significantly associated with past training in entrepreneurship.

On the other hand, numerous empirical studies find that EE has either no discernible influence or a negative influence on EI (Boissin and Emin, 2007; do Paço et al., 2013; Marques et al., 2012; Oosterbeek et al., 2010; Packham et al., 2010; Tegtmeir, 2012; Volery et al., 2013; von Graevenitz et al., 2010). Bae et al. (2014) conduct meta-analyses of 73 studies and find a small but significant association between EI and EE (r=0.143). However, Bae et al. (2014) indicate that

[11] For a comprehensive discussion of differences amongst factor-, efficiency- and innovation-driven economies please see section 2.1 in Chapter 2.

after controlling for the pre-education intention of respondents, the post-education intention is not significant. They recommend that future studies should focus on various possible mediation effects and checks for self-selection bias. Based on data from secondary school students in Portugal, Marques et al. (2012) do not find support for any impact of EE on EI. Students who report higher EI are those who already had prior entrepreneurial exposure. These results are not unprecedented. Studies such as Boissin and Emin (2007) and do Paco et al. (2013) also conclude that EE has no significant impact on EI. Volery et al. (2013) and Oosterbeek et al. (2010) conclude that EE may even have a negative effect on EI. Based on a study of undergraduate students in France, Germany and Poland, Packham et al. (2010) find that EE has significant positive effect on EI for French and Polish students but negative impact for German students. German students indicate that they are interested in EE, not because it enables them to start a business, but because it helps them acquire skills that improve their competitiveness when they become employees in existing organisations. The authors speculate that low unemployment in Germany may be a contributing factor.

The foregoing inconsistent findings have prompted scholars to suggest that since EE and business start-up support by government and other stakeholders are investments toward graduate entrepreneurship, further research with clear theoretical underpinnings is required to determine return on investments (Nabi et al., 2010; Rae et al., 2012). Additionally, scholars note that research on the influence of EE, individual factors and contextual factors on EI has grown in isolation from each other (Hitt et al., 2007; Shepherd, 2011; Shook et al., 2003). Further, some scholars claim that attempts at research on contextual factors' influence on EI have lacked sound theoretical underpinnings (Krueger, 2008; Nabi et al., 2010). Thus, there is a shortage of studies investigating the intervening role

of EE on the relationships between individual and contextual factors and EI (Cope, 2005; Ertuna and Gurel, 2011; Rideout and Gray, 2013).

> *"The real question we need to answer is: what type of EE, delivered by whom, within which type of university, is most effective for this type of student, with this kind of goal, and under these sets of circumstances (or contexts). Even at this elementary stage in its development for EE research, it is clear that if we are going to address the needs of policymakers and the constituencies and taxpayers they are responsible to, EE researchers will need to strive to answer this kind of complex question."* Rideout and Gray (2013, P.348)

Moreover, extant literature indicates a lack of research proposing and validating integrative theory-based conceptual models in relation to determinants of EI (Fayolle and Liñán, 2014; Krueger, 2009; Shook et al., 2003). This limits the understanding of the interplay among various facets of EI development.

> *"…we need a larger pool of methodologically adequate EE research. In this regard, well-designed case studies would also be useful to help identify important mediators. We need more quantitative research that simultaneously examines the role of promising mediators like entrepreneurial self-efficacy, cognitive skills and knowledge, values and attitudes, social networks, and other contextual variables on policy relevant outcomes,…clearly there is also need for the development of psychometrically sound measures to supports these efforts."* Rideout and Gray (2013, p.348)

Lastly, the literature also shows that research on the effect of EE on EI is predominantly conducted in developed countries, with a paucity of studies in developing countries (Bruton et al., 2010; Hoskisson et al., 2011; Nabi and Liñán, 2011). Thus, scholars suggest that one way to build in-depth understanding of entrepreneurial phenomena is to execute studies in diverse and under-researched contexts (Fayolle and Liñán, 2014). This would enable stakeholders to have more confidence that findings of research are applicable to a wider range of settings.

5.5 Conclusions

This chapter has discussed the importance and types of entrepreneurship education. Indeed the world is changing fast. The number of people working in small firms or who are self-employed is growing, while employment opportunities in large firms and the public sector are limited. Therefore, individuals seeking jobs need to be more flexible and entrepreneurial. Enterprise education aims to produce graduates possessing a range of essential skills and attributes to make unique, creative and innovative contributions in the world of work. Entrepreneurship is the application of enterprise skills specifically to creating and growing organisations by identifying, evaluating and exploiting opportunities. The focus of the current research is entrepreneurship education (EE) which is concerned with the development and application of enterprising mind-sets and skills in the specific contexts of setting up, managing and growing a venture. It is also concerned with developing an understanding of the nature of business, innovation and small business management and their role in economic activity. Empirical studies on the effect of EE on EI show mixed conclusions. In light of the foregoing inconsistent findings and knowledge gaps in the literature, the next chapter proposes a conceptual model and develops hypotheses for investigating if EE has an intervening role in the influence of individual and institutional factors on EI.

CHAPTER 6: CONCEPTUAL MODEL AND HYPOTHESES DEVELOPMENT

6.0 Introduction

The preceding chapter reviews literature on the impact of entrepreneurship education (EE) on entrepreneurial intention (EI). Clearly, existing literature has mixed conclusions (Bae et al., 2014; Küttim et al., 2014); some studies report positive impact while others show negative results. The literature also indicates a lack of integrated conceptual models for examining the antecedents of EI (Fayolle and Liñán, 2014; Krueger, 2009; Shook et al., 2003). In this context, this chapter proposes a conceptual model and puts forward hypotheses in relation to EE and EI. Specifically, this chapter includes a synthesis of theoretical background to the proposed conceptual model (6.1); institutional factors' influence on perceived feasibility and desirability of entrepreneurship (6.2); individual factors' influence on perceived desirability and feasibility (6.3); the intervening role of EE (6.4); and, the influence of perceived feasibility and desirability on EI (6.5).

6.1 Theoretical Background to the Conceptual Model

An established body of studies suggests that EI is central to entrepreneurship (Bird, 1988; Krueger JR et al., 2000; Shinnar et al., 2012). EI is a self-acknowledged conviction of a person who intends to start a business venture and consciously plans to do so at some point in the future (Rotefoss and Kolvereid, 2005; Thompson, 2009). The literature shows that individuals with high EI are more likely to start a business than those with low EI (Kautonen et al., 2013; Krueger, 2008; Matlay, 2008). The GEM indicates that EI is an important measure of potential entrepreneurship of society (Kelley et al., 2012). Thus, understanding

EI determinants becomes important for understanding entrepreneurial behaviour (Shane and Venkataraman, 2000).

A number of conceptual models explaining antecedents of EI (Bird, 1988; Boyd and Vozikis, 1994; Davidsson, 1995; Krueger and Carsrud, 1993; Krueger, 1993; Krueger and Brazeal, 1994; Lim et al., 2010; Lüthje and Franke, 2003) are primarily based on Shapero and Sokol's (1982) entrepreneurial event model and Ajzen and Fishbein's (1991, 2002, 2005) theory of reasoned action and planned behaviour. According to these theories, EI can be parsimoniously regarded as a function of perceived desirability and feasibility of entrepreneurship (Brännback et al., 2006; Fitzsimmons and Douglas, 2011; Schlaegel and Koenig, 2014). Desirability reflects the degree to which a person has a favourable evaluation of the entrepreneurial career i.e. 'Do I perceive that this would be a good thing for me to do?' Feasibility reflects an individual's perception of ease of performing the behaviour i.e. 'Could I do it if I want to?'

However, extant literature raises critical questions in relation to the adequacy of the basic EI model. Specifically, scholars indicate that there is little knowledge about what factors determine perceptions of feasibility and desirability (Davidsson, 2004; Dohse and Walter, 2012; Hindle et al., 2009; Rideout and Gray, 2013; Schlaegel and Koenig, 2014). In attempts to decipher the antecedents of EI, previous research has provided two, mostly, separate strands of explanations. Firstly, the individual-focused strand holds that individuals with personality traits, background and demographic factors matched to entrepreneurial tasks are more likely to have higher EI than those without (BarNir et al., 2011; Lee and Wong, 2004; Stewart Jr and Roth, 2001; Verheul et al., 2012; Zhao et al., 2010a). Secondly, the environment-focussed strand holds that inhibiting or facilitating factors in the external environment influence EI (Birdthistle, 2008; Luethje and

Franke, 2004; Robertson et al., 2003; Shane, 2004; Smith and Beasley, 2011; Walter et al., 2011). The forgoing research strands on EI have evolved relatively isolated from each other. This view is shown in the quotes below:

> *"With regard to theoretical limitations, the EI literature has not resulted in cumulative knowledge because the various perspectives have been pursued in isolation from other perspectives. Future work on EI should attempt to integrate and reduce the number of alternative models."* Shook et al. (2003, p.386)

> *"(on the future of entrepreneurial intention research)...as Krueger (2009) suggests, the construct of intentions appears to be deeply fundamental to human decision making, and as such, it should afford us multiple fruitful opportunities to explore the connection between intent and a vast array of other theories and models that relate to decision making under risk and uncertainty. This view opens the door for the development of integrative and more sophisticated theoretical models of the entrepreneurial process… New research may consider interaction…moderation…and mediation effects."* Fayolle and Liñán (2014, p.664)

> *"For future research...it has become clear that an adequate theory of entrepreneurial intention should give due attention to the contextual framework in order to capture the entrepreneurial event in its various dimensions."* Dohse and Walter (2012, p.891)

As a consequence, scholars call for studies to examine how factors at the individual and institutional levels jointly shape EI (De Clercq et al., 2011; Fayolle and Liñán, 2014; Hitt et al., 2007; Krueger, 2009). A cross-level approach may address inconsistent findings on determinants of EI since it may, ultimately, be determined by a combination of dispositions, context and other interventions (Cope, 2005; Gartner, 1989a; Hindle et al., 2009; House et al., 1996; Krueger, 2009; Mitchell et al., 2007; Wang and Chugh, 2014). In addition, the impact of country institutional profile developed and validated in Europe and the US has not been applied in developing countries (Bruton et al., 2010; Hoskisson et al., 2011). Consequently, it is vital to explore whether the findings generated in the developed economies can be replicated in the developing context (Giacomin et al., 2011).

This study aims to investigate the effect of EE on the relationships between individual and institutional factors and EI. This proposition is based on two

reasons. Firstly, based on reviews of extant literature, scholars indicate the need to explore if, why and how EE and its impact may differ in different learning contexts and with different individuals (Rideout and Gray, 2013; Wang and Hugh, 2014; Cope, 2005; Fairlie and Holleran, 2011; Liñán, 2008; Fayolle and Liñán, 2014). It would be enlightening to study EE and its interaction with contextual and individual factors. Secondly, EI is incorporated in many studies even when research coverage has not been extended to EE (BarNir et al., 2011; Birdthistle, 2008; Davey et al., 2011; Levenburg et al., 2006; Wu and Wu, 2008). For instance, Luethje and Franke (2003) establish that individual factors and some elements of the entrepreneurial environment are positively associated with EI. Therefore, it would be worthwhile to go a step further to explore the role EE plays in this process.

Building on Shapero and Sokol (1982) and Azjen (1991), Luethje and Franke (2003) propose a model that examines factors influencing EI. The major advantage of their model is that it integrates, though not comprehensively, some elements of trait theory, contextual factors and the basic EI model to investigate the combined effect of entrepreneurial traits, perceived barriers and support factors on EI (Figure 6.1). However, their model neither incorporates the influence of entrepreneurial self-efficacy (Nabi et al., 2010) nor the influence of EE on EI. In addition, their model does not capture a wide range of institutional and individual factors. The current research adopts and extends Luethje and Franke's (2003) model and attempts to investigate whether EE intervenes on the impact of individual and institutional factors on EI. The conceptualised model is shown in Figure 6.2 and sections 6.2 to 6.5 explain how the combined effect of these factors influences EI.

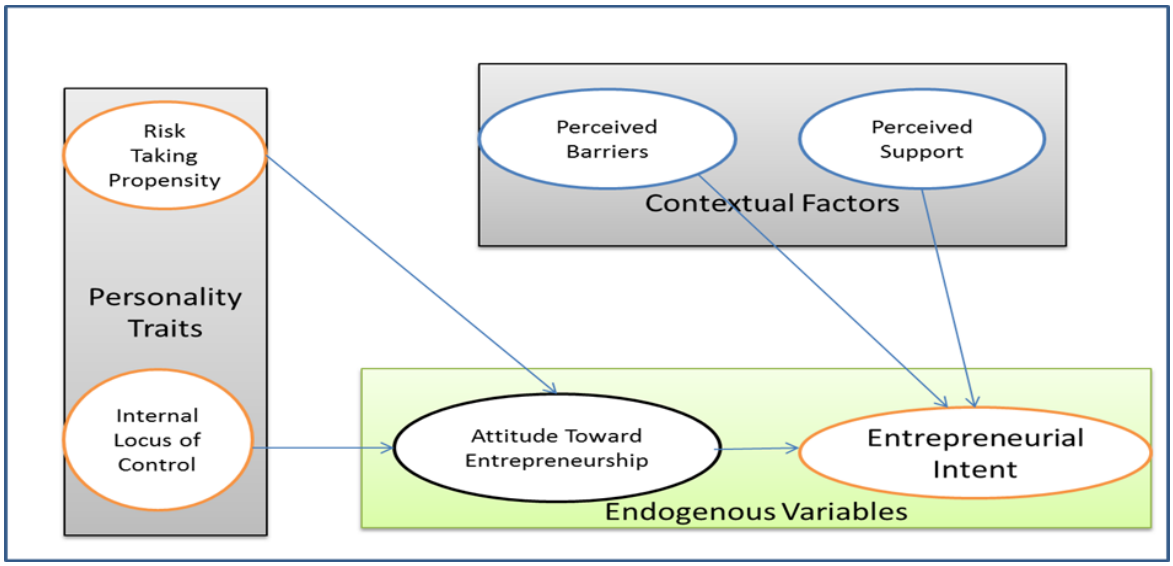


Figure 6.1 - Luethje and Franke (2003) Entrepreneurial Intention Model

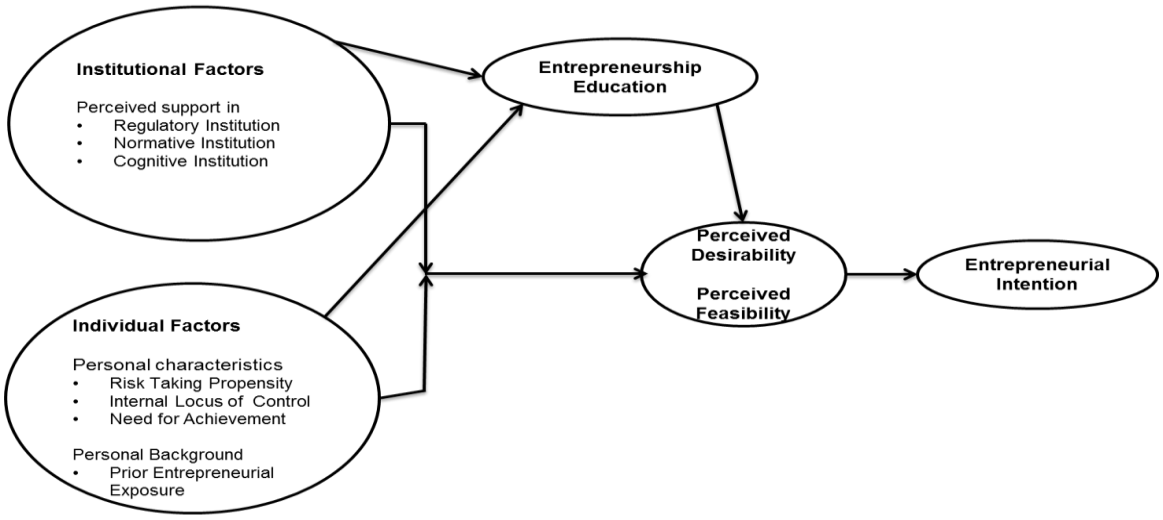


Figure 6.2 - Hypothesised Model for the Mediating Role of EE

6.2 Institutional Factors' Influence on Perceived Feasibility and Desirability

Institutional theory explains how organisational behaviour is shaped by surrounding formal and informal institutional forces or 'rules of the game' (Engle et al., 2011; Kostova, 1997; North, 1990; Scott, 1995; Scott, 2008; Szyliowicz and Galvin, 2010). Institutional theory is widely used in sociology (DiMaggio and Powell, 1983; Meyer and Rowan, 1977; Roy, 1997), political science (Bonchek

and ShepSle, 1997) and economics (North, 1990). DiMaggio and Powell (1983) classify institutions in three dimensions: coercive (legally sanctioned), normative (morally authorised and culturally supported) and mimetic/imitative (culturally and professionally supported way of coping with uncertainty). Following this lead, Scott (1995) outlines three pillars: regulatory (rule-setting, monitoring, and sanctioning activities), normative (a prescriptive, evaluative and obligatory dimension into social life), and cognitive (shared conceptions that constitute the nature of social reality and the frames through which meaning is constructed). Building on Scott's work, Kostova (1997) introduces the concept of country institutional profile to explain how a country's government policies (regulatory), widely shared social knowledge (cognitive) and value systems (normative) affect business activities. The country institutional profile reflects a country's business environment in an inclusive way and captures various aspects of the environment including cultural norms (Hofstede, 1984), social knowledge, rules and regulations (Stenholm et al., 2013). Kostova (1997) argues that institutions are context specific and, therefore, institutional characteristics of a country should be evaluated in relation to a specific phenomenon rather than in general.

Busenitz et al. (2000) apply the country institutional profile to explore how and why levels of entrepreneurship vary by country. The three institutional dimensions influence entrepreneurial attitudes, motives as well as the constraints and opportunities for starting, managing and growing a business (Gnyawali and Fogel, 1994; Martinelli, 2004). They determine the pace and type of entrepreneurial activity of a country (Bruton et al., 2010; Manolova et al., 2008; Spencer and Gomez, 2004; Welter and Smallbone, 2011). Busenitz et al. (2000) further empirically validate the country institutional profile of entrepreneurship with macro-level data based on six developed economies, i.e. U.S., Norway, Italy, Sweden,

Germany and Spain. Their findings indicate that the influence of the three institutional dimensions is consistent across countries in determining rate of new business activity. Countries where entrepreneurship is admired are more likely to have higher start-up rates. However, it is the cognitive and regulatory dimensions that provide the skills and necessary support for entrepreneurship. Spencer and Gomez (2004) find that the three institutional dimensions and other economic indicators such as GDP and unemployment determine rate of self-employment as well as the number of small businesses and stock exchange listings. Manolova et al. (2008), by applying the profile to three emerging economies (i.e. Bulgaria, Hungary and Latvia), find that institutional dimensions are associated with the GEM's rate of entrepreneurial activity.

Institutional Factors Included and Excluded in the Model

In line with concerns by Bruton et al. (2010), Hoskkison et al. (2011) claim that "...most research on entrepreneurship has neglected the entrepreneur's institutional context…not much work has been done in…contexts such as developing economies" (p.1155). Bruton et al. (2010) argue that one major advantage of Busenitz et al.'s (2000) framework over others is the explicit recognition that country differences involve more than cultural values and norms. Wicks (2001), Fayolle and Liñán (2014) and Engle et al. (2011) argue that institutional influences should also be investigated at micro-level to determine their impact on individual cognition and behaviour. De Clercq et al. (2011) recommend that future studies should investigate combinations of individual and institutional factors' influence on perceptions of feasibility to start a business.

Therefore, Busenitz et al.'s (2000) country institutional profile for entrepreneurship was chosen for this study because it is the only framework in the extant literature

that effectively combines formal institutions (laws, regulations and policies), and informal institutions (culture, values, norms and generally shared knowledge and information in society) into one framework to assess the entrepreneurial environment. These are the elements that scholars such as Schlaegel and Koenig (2014) and Rideout and Gray (2013) recommend as the basis for exploring the context-specific development of EI. Obviously this choice means that some factors in the environment such as regional differences in start-up rates within a country, as well as ethnic and religious diversity are not captured (Caliendo, 2013).

Regulatory Institutions' Influence on Feasibility and Desirability

Busenitz et al. (2000) conceptualise the regulatory institution as the formal set of laws, regulations and government policies that provide support to individuals when they start a new venture, acquire resources and get access to markets. Engle et al. (2011) and Gnyawali and Fogel (1994) argue that countries that offer tax incentives and provide training and mentoring for nascent entrepreneurs are likely to witness higher new venture creation. Favourable policies, regulations and business support mechanisms help to reduce barriers and enhance business capabilities (Birdthistle, 2008; Shinnar et al., 2012). For instance, scholars argue that relaxing credit constraints allows some poor individuals to access credit for firm formation (Bianchi, 2010). Lim et al. (2010) observe that supportive, less complicated and less burdensome legal environment may positively influence the rate of entrepreneurship. Favourable policies and support mechanisms also help to promote entrepreneurship as an acceptable career path (Silva et al., 2011). This would enhance desirability of entrepreneurship in society. Gaspar (2009) finds that nascent entrepreneurs supported by venture capitalists and incubation services would not decide to start if the support was not available. Others note that

sufficient financial capital targeted at entrepreneurship increases rate of new business activity in a country (Bowen and De Clercq, 2007).

Normative Institutions' Influence on Feasibility and Desirability

The normative institution reflects the degree to which people in a nation admire and value entrepreneurship as a respectable and high-status career path (Baughn et al., 2006; Busenitz et al., 2000). While the regulatory institution tends to shape a country's entrepreneurship in a formal way, the normative institution tends to informally provide a shared set of practices, norms, standards and values (Bontempo and Rivero, 1992; Frederking, 2004; Hofstede, 1984; Mueller and Thomas, 2001; Park and Levine, 1999; Siu and Lo, 2013). Previous studies show that a society that admires and values entrepreneurs tends to show higher interest in entrepreneurship (Baugh et al., 2006). This type of society also encourages more individuals to pursue entrepreneurial careers (Falck et al., 2012; Spencer and Gomez, 2004). In Spain for instance, societal admiration of entrepreneurship is found to have a direct impact on desirability of entrepreneurship albeit with regional differences (Liñán et al., 2011; Liñán, 2008). From the literature, it is also expected that the higher the societal recognition of entrepreneurship, the higher the feasibility of entrepreneurship, since favourable normative institutions increase the likelihood of support from peers, family and policy makers (Shapero and Sokol, 1982; Gnyawali and Fogel, 1994; BarNir et al., 2011; Verheul et al., 2012; Mauer et al., 2009). Scholars suggest that if societal values and beliefs are favourable to entrepreneurship, more individuals would desire to create a new venture (Davidsson and Wiklund, 1997; Falck et al., 2012; Maria and Bygrave, 2001; McClelland, 1961; Veciana and Urbano, 2008).

Cognitive Institutions' Influence on Feasibility and Desirability

The cognitive institution consists of shared knowledge and skills possessed by people in a country pertaining to starting and operating a business (Busenitz et al., 2000). Within countries, particular knowledge sets are institutionalised through sharing (Busenitz and Barney, 1997; Lau and Woodman, 1995). Such knowledge and skills would be transmitted through informal or formal general education systems (Baughn et al., 2006; Dohse and Walter, 2012; Hindle et al., 2009; Schenkel et al., 2009; Ucbasaran et al., 2003). De Clercq et al. (2011), Bowen and De Clercq (2008) and Spencer and Gomez (2004) find that favourable cognitive institutions influence rate of new business creation. Favourable cognitive institution leads to accumulation of entrepreneurship knowledge and increases individuals' capability in opportunity identification and exploitation (Schenkel et al., 2009; Kirzner, 1997; Lim et al., 2010). It is expected that the greater the availability of entrepreneurship knowledge in a society, the greater the perceived business start-up abilities among potential entrepreneurs (Gnyawali and Fogel 1994). It is also expected that shared information would positively affect values and beliefs about entrepreneurship (Shapero and Sokol, 1982). Based on the above discussion, the following hypotheses are proposed:

H1: Institutional factors are positively associated with perceived feasibility and desirability of entrepreneurship

H1a: Regulatory institution is positively associated with perceived feasibility of entrepreneurship
H1b: Regulatory institution is positively associated with perceived desirability of entrepreneurship
H1c: Normative institution is positively associated with perceived feasibility of entrepreneurship
H1d: Normative institution is positively associated with perceived desirability of entrepreneurship
H1e: Cognitive institution is positively associated with perceived feasibility of entrepreneurship
H1f: Cognitive institution is positively associated with perceived desirability of entrepreneurship

6.3 Individual Factors' Influence on Perceived Feasibility and Desirability

It is evident that individuals differ in ability, temperament, learning style and socialisation (Marques et al., 2012; Nga and Shamuganathan, 2010; Obschonka et al., 2010). Personality refers to all fundamental characteristics of a person that endure over time and account for consistent patterns of responses to everyday situations (Rauch and Frese, 2007). Individuals choose work environments and jobs that match their personalities, needs and interests (Zhao and Seibert, 2006). Facing the same opportunity, some people will decide to exploit an entrepreneurial opportunity while others will not (Shane, 2003). Some individuals have an entrepreneurial "career anchor" (Schein, 1996) or propensity to enterprise; a combination of psychological traits, interacting with other contextual and background factors, may drive them to found a business when an opportunity arises (Gnyawali and Fogel, 1994; Marques et al., 2012; Zellweger et al., 2011). Founding and managing a business requires that one fulfils a number of roles such as innovator, risk taker, manager, relationship builder and goal achiever (Chen et al., 1998). This view is widely shared in the literature (Chen et al., 1998; Fairlie and Holleran, 2011; Zhao et al., 2010a). Studies show that individuals with high need for achievement, internal locus of control and risk taking propensity are more likely to engage in entrepreneurship (Fairlie and Holleran, 2011; Marques et al., 2012; Rauch and Frese, 2007).

On the other hand, Gartner (1988) notes disappointing results of some studies that have attempted to link individual traits to entrepreneurial behaviour (Brockhaus Sr, 1980; Brockhaus and Nord, 1979; Brockhaus and Horwitz, 1982; Sexton and Kent, 1981). Such studies find that where certain psychological traits are concerned, it may not always be possible to distinguish entrepreneurs from the general population. Notwithstanding the disappointing results, Dyer (1994) and Rauch and

Frese (2007) argue that individual factors play a significant role in the selection of an entrepreneurial career. Recent meta-analyses (Zhao et al., 2010; Rauch and Frese, 2007) explore the influence of personality characteristics including the ‘‘Big Five’’ (extraversion, neuroticism, agreeableness, openness to experience, and conscientiousness) on EI. Besides observing that risk taking propensity and locus of control are associated with entrepreneurship, researchers find that openness to experience, conscientiousness, and extraversion lead to EI and entrepreneurial success (Obschonka et al., 2010; Zhao et al., 2005). Frank et al. (2007) further find that the influence of personality traits is more significant at the venture creation stage, but less significant at the venture survival and growth stages. At the venture survival and growth stages, skills, the environment and resources are more significant.

Individual Factors Included and Excluded in the Model

This study chooses to include four individual factors, namely risk taking propensity (RTP), internal locus of control (ILC), need for achievement (NAch) as well as prior entrepreneurial exposure (PEE). The rationale for this choice is two-fold. Firstly, as discussed in section 6.1, Luethje and Franke’s (2003) model, which is employed as a foundation for the current research, uses RTP and ILC to represent individual characteristics. The current study not only adopts RTP and ILC from Luethje and Franke’s (2003) model but also includes NAch because the three personality traits are the most consistent and common characteristics reflected in prior research (Zhao et al., 2010; Thomas and Mueller; 2001; Fairlie and Holleran, 2011; Rauch and Fese, 2007; Luethje and Franke, 2003). Secondly, the study also includes prior entrepreneurial exposure because scholars indicate that it is the common background factor associated with entrepreneurship (Zellweger et al., 2011; Krueger, 1993; BarNir et al., 2011). Prior research shows that individuals are

morely likely to have an understanding of what is involved in entrepreneurship, if they i) started and managed a business previously; ii) have a parent/family member who has started and managed a business; iii) work in family business; or iv) closely work with an entrepreneur.

Obviously the choice of the four individual factors implies that other factors are excluded such as psychological characteristics of desire for independence, disagreeableness, extraversion, over-confidence, representativeness and intuitiveness (all these have been discussed in section 3. 3). In relation to an individual's background, factors such as family wealth, social ties and networks, as well as friends' and family's advice and support in the choice of career and study programmes, are excluded (Ride and Gray, 2013; Caliendo, 2013; Clarke, 2005). While the excluded individual factors may have an influence on EI (Falck et al., 2012; Rauch and Frese, 2007), they are not among the common and consistent determinants of EI in prior research (Frank et al.,2007; BarNir et al., 2011; Thomas and Mueller, 2001).

Risk Taking Propensity's Influence on Feasibility and Desirability

The most studied personality characteristic in the context of entrepreneurship is risk taking propensity (Fairlie and Holleran, 2011). RTP entails willingness to pursue opportunities and courses of action involving uncertainty (Zhao et al., 2010). Early scholars indicate that an individual willing to bear risk is more likely to choose to be an entrepreneur (Cantillon, 1755; Cole, 1942; Knight, 1921; Mill, 1848). Contemporary scholars continue to view proclivity to take risks as a pre-requisite for engaging in entrepreneurship (Frank et al., 2007; Hermann, 2011; Rauch and Frese, 2007). Others consider RTP as the hallmark of the entrepreneurial personality (Begley and Boyd, 1986). Empirical findings show that

moderate and high risk takers are more likely to be entrepreneurs (Rauch and Frese, 2000; Rauch and Frese, 2007; Stewart, 1996) and that the RTP of entrepreneurs is generally higher than that of non-entrepreneurs (Stewart and Roth, 2001). Before a new product or service is introduced, an individual cannot know with certainty that he/she can produce desired outputs (technical risk), meet consumers' needs (market risk), generate profits in competition (competitive risk) and be able to repay debt (financial risk). In fact, the future cannot be known with certainty (Knight, 1921; Wu, 1989).

Some individuals, more than others, would be eager to start something new or engage in an activity even if they have no guarantee. Individuals with high RTP are generally open minded and feel capable of dealing and coping with uncertainty and risk. Such individuals are expected to be excited about starting a business. Besides being attracted to start the new business, such individuals are expected to have high perceived capability of handling and coping with the uncertainties. Prior studies indicate that individuals with high RTP are more likely to choose an entrepreneurial career (Segal et al., 2005; Verheul et al., 2012; Zhao et al., 2005). This is because such individuals would consider business start-up not only possible but also worthwhile.

Internal Locus of Control's Influence on Feasibility and Desirability

Studies in psychology reveal that individuals with higher ILC have higher self-esteem, self-efficacy and emotional stability (Judge et al., 2002). An individual with higher ILC believes that he or she can influence any outcomes through capability and effort. On the other hand, an individual with lower ILC believes that factors beyond one's personal control determine outcomes (Rotter, 1966). Recent findings confirm that people with stronger ILC are more adept at dealing with the pressures

at work and can cope with change more effectively (Frank et al., 2007). Not surprisingly, ILC is one of the most studied psychological traits in entrepreneurship (Thomas and Mueller, 2001; Rauch and Frese, 2007). Since individuals with high ILC believe in their own abilities to achieve outcomes and give little credence to external forces and barriers, they are more likely to regard entrepreneurship attractive and possible (Rotter, 1966). This is because such individuals like to be initiators, taking responsibility for their own welfare and are independent from others; entrepreneurship offers them such an opportunity (McClelland, 1961).

Individuals with high ILC are more likely to start a business for two major reasons. Firstly, individuals with high ILC find activities that provide a direct link between effort and outcomes attractive (Thomas and Mueller, 2001; Frank et al., 2007). Business start-up provides a direct link between effort and outcomes. Despite the challenges involved, an entrepreneur's efforts would eventually be rewarded through the survival and growth of the business along with the other benefits of these achievements. Therefore, it is expected that individuals with high ILC will find business start-up attractive. This would be reflected in high desirability of entrepreneurship. Secondly, individuals with higher ILC would also feel more capable of handling the pressures and the uncertainties of business start-up than individuals with low ILC (Frank et al., 2007). This is because such individuals generally have a higher degree of belief in their abilities and effort to influence outcomes in any activity. Additionally, such individuals believe they can achieve their goals despite external forces and barriers.

In support of these perspectives, literature indicates that there are at least some general agreements that the entrepreneur, however defined, is a self-motivated individual who takes the initiative to start and build an enterprise relying primarily on self rather than others to formulate and implement his or her goals (Shapero,

1975; Krueger and Brazeal, 1994; Thomas and Mueller, 2001). Other scholars find that an individual's belief that capability and effort will determine outcomes is crucial to the new venture creation decision (Brockhaus and Horwitz, 1982; Frank et al., 2007; Lee and Tsang, 2001; Lüthje and Franke, 2003; Rauch and Frese, 2007; Verheul et al., 2012). Thus, individuals with high ILC would engage in entrepreneurship because such individuals are more likely to find business start-up both attractive and possible.

Need for Achievement's Influence on Feasibility and Desirability

Need for achievement is among the most researched personality characteristics associated with entrepreneurship (Rauch and Frese, 2007; Frank et al., 2007). In fact, scholars indicate that it is the most consistent personality predictor of job performance across all types of work and occupations (Zhao and Seibert, 2006). NAch is an individual's persistence, hard work and motivation for significant accomplishment (McClelland, 1961; McClelland, 1965; McClelland, 1967). A high NAch is a motivation that leads an individual to seek activities and tasks that demand individual effort and skill, and provide clear feedback on outcomes. Because entrepreneurship requires significant effort, persistence and skill, individuals with high NAch are more likely to fit in. Except for a few studies that indicate otherwise (Cromie, 2000; Littunen, 2000), most empirical research finds that individuals who have a higher NAch are more likely to be entrepreneurs (Collins et al., 2004a; Dohse and Walter, 2012; Frank et al., 2007; Kristiansen and Indarti, 2004; Rauch and Frese, 2007; Volery et al., 2013). This is because NAch drives individuals to seek careers and tasks in which performance is due to one's own efforts and not the efforts of others.

Prior Entrepreneurial Exposure's Influence on Feasibility and Desirability

In addition to the foregoing major individual characteristics, extant literature indicates that an individual's background influences the likelihood of business start-up (Dyer, 1994; Zellweger et al., 2011). Shapero and Sokol (1982) and Krueger (1993) indicate that one of the major factors associated with entrepreneurship is prior entrepreneurial exposure (PEE). Scholars indicate that individuals with PEE are more likely to find entrepreneurship attractive. They are also more likely to have confidence in their abilities to start and manage a business. This is because such individuals are exposed to entrepreneurship; they have some levels of understanding of what is involved in entrepreneurship. With a few exceptions, such as Zhang et al. (2013), scholars find that individuals who have a) a parent/family member who is an entrepreneur, b) started a business before, or c) worked closely with an entrepreneur, are more likely to start a business (Falck et al., 2012; Verheul et al., 2012; Krueger, 1993). Based on the above perspectives on individual factors, the following hypotheses are proposed:

H2: Individual factors are positively associated with perceived feasibility and desirability of entrepreneurship

H2a: Risk taking propensity is positively associated with perceived feasibility of entrepreneurship
H2b: Risk taking propensity is positively associated with perceived desirability of entrepreneurship
H2c: Internal locus of control is positively associated with perceived feasibility of entrepreneurship
H2d: Internal locus of control is positively associated with perceived desirability of entrepreneurship
H2e: Need for achievement is positively associated with perceived feasibility of entrepreneurship
H2f: Need for achievement is positively associated with perceived desirability of entrepreneurship
H2g: Prior entrepreneurial exposure is positively associated with perceived feasibility of entrepreneurship
H2h: Prior entrepreneurial exposure is positively associated with perceived desirability of entrepreneurship

6.4 Intervening Role of Entrepreneurship Education

Whether or not entrepreneurship can be taught is an area of on-going debate (Aronsson, 2004; Gendron et al., 2004; Kuratko, 2003; Solomon, 2007). However, many scholars agree that attitudes, behaviour, and mind-set associated with entrepreneurship can be developed or enhanced through education and training (Baron and Ensley, 2006; DeTienne and Chandler, 2004; Hindle, 2007; Klein and Bullock, 2006; Ucbasaran et al., 2008; Williamson et al., 2013). Specifically, individuals can learn approaches for generating and evaluating business ideas, ways to identify and serve markets, strategies to adopt for market entry as well as acquisition and management of resources (Bosma et al., 2004; Davidsson and Honig, 2003; Shepherd and DeTienne, 2005).

Various pedagogical practices can be used to develop entrepreneurial self-efficacy. Such approaches include lectures, case studies, guest entrepreneur presentations, internships/placements, business simulations as well as problem-based learning (Krueger Jr, 2007b; Krueger Jr, 2009; Mauer et al., 2009; Neck and Greene, 2011; Stumpf et al., 1991). Knowledge about the benefits of entrepreneurship to individuals and society may help portray entrepreneurship as a legitimate, socially respectable and desirable career path (Walter et al., 2011). This may encourage students to pursue entrepreneurial careers (Kolvereid, 1996b; Peterman and Kennedy, 2003).

There is a shortage of studies exploring whether EE has an intervening role on the influence of institutional and individual determinants of EI (Liñán and Fayolle, 2014). Based on Shapero and Sokol (1982), Ajzen (1991) and Franke and Luthje (2003), the current research builds a case for the possible intervening role of EE from two angles. Firstly, extant literature indicates that positive perception of the business environment influences new business creation (Zahra, 1993; Zahra and

Covin, 1995; Souitaris et al., 2007). It is expected that favourable institutional factors promote entrepreneurship by a) enhancing the perception that it is achievable because of low barriers, and b) enabling people to realise its importance and value. Therefore, favourable institutions would also positively influence people's interest in EE, whilst interest in EE will affect the level of entrepreneurship knowledge and skills acquired through EE i.e. effectiveness of EE (Lewis et al., 2009; Potvin and Hasni, 2014). Effective learning from the EE will further enhance the understanding of the benefits of entrepreneurship (Mauer et al., 2009; Fayolle et al., 2006; Souitaris et al., 2007). Thus, effectiveness of EE would in turn influence the perception that business start-up is not only worthwhile but also possible.

Secondly, while EE clarifies the benefits and develops knowledge and skills about entrepreneurship, individuals differ in ability, temperament, personality, interests, and socialisation. Some factors on which individuals differ determine whether one considers the tasks, roles, and activities of entrepreneurship attractive and possible (Shane, 2003; Frank et al, 2007). Individuals with characteristics required for entrepreneurship would have favourable attitudes towards entrepreneurship and, therefore, prefer EE. This favourable predisposition is expected to affect performance and effort in EE, ultimately influencing the effectiveness of EE i.e. the level of knowledge and skills acquired through EE. Effectiveness of EE would in turn influence perceived feasibility and desirability of entrepreneurship. These perspectives resonate with suggestions by scholars that personal interests determine choices and intensity when engaging in any aspect of education, potentially influencing its impact (Lewis et al., 2009; Matlay, 2010). Thus scholars indicate that attitude/interest/motivation affect performance, and perception of such in education (Potvin and Hasni, 2014). Based on this rationale, the detailed

proposed mediating[12] influences of EE are discussed in subsections 6.4.1 and 6.4.2.

6.4.1 Entrepreneurship Education Mediating the Influence of Institutions

Regulatory Institution and Effectiveness of Entrepreneurship Education

The **regulatory institution** comprises laws, regulations and government policies that provide support and administrative procedures facilitating business start-up (Busenitz et al., 2000). Would-be entrepreneurs are likely to consider themselves capable of launching businesses if they perceive that the entrepreneurial environment is supportive (Chen et al., 1998; Mauer et al., 2009; Shapero and Sokol, 1982). This is because favourable regulatory institutions not only reduce perceived start-up barriers but also promote entrepreneurship by signalling that this is important to society. It is further proposed that favourable regulatory institutions also promote entrepreneurship by affecting the population's interest and attitude toward entrepreneurship and EE. This interest and the resulting effort in EE will affect the rate and level of entrepreneurship knowledge and skills acquired i.e. effectiveness of EE. Effectiveness of EE will in turn affect the thinking that business start-up is possible and worthwhile. Extant literature on general education indicates that attitude toward a subject influences effort and the consequent performance (Blickle, 1996; Chamorro-Premuzic and Furnham, 2003; De Fruyt and Mervielde, 1996; Lewis et al., 2009; Lievens et al., 2002).

[12] Choice of mediation analysis, rather than moderation, was based on guidelines by Baron and Kenny (1986, p1174): that it is desirable that the moderator variable be uncorrelated with both the predictor and the dependent variable to provide a clearly interpretable interaction term. Another property of the moderator variable is that, unlike the mediator-predictor relation (where the predictor is causally antecedent to the mediator), moderators and predictors are at the same level in regard to their role as causal variables antecedent or exogenous to certain criterion effects. That is, moderator variables always function as independent variables, whereas mediating events shift roles from effects to causes, depending on the focus of the analysis.

Entrepreneurship skills and knowledge acquired through EE are expected to enhance one's human capital by increasing a) opportunity recognition abilities (Lim et al., 2010; Robison and Sexton 1994; Arenius and DeClercq 2005) and b) opportunity exploitation capabilities (Martínez et al., 2010; Oosterbeek et al., 2010; Souitaris et al., 2007; von Graevenitz et al., 2010). Thus, the regulatory institution would influence perceived feasibility and desirability of entrepreneurship indirectly via effectiveness of EE.

Normative Institution and Effectiveness of Entrepreneurship Education

The **normative institution** reflects the degree to which society admires and values entrepreneurship, creativity and innovation (Busenitz et al., 2000). The higher entrepreneurship is positioned in an economy, the more favourable the citizens' attitude toward entrepreneurship (Baughn et al., 2006; Davidsson, 1995; Thomas and Mueller 2001; Kennedy and Peterman, 2003; Walter et al., 2011) and the higher the likelihood that individuals obtain support at the start-up stage (Shapero and Sokol 1982; BarNir et al., 2011; Mauer et al., 2009). Societal admiration of entrepreneurship would not only affect the attitude and interest toward business start-up but also attitude toward EE. Since societal admiration of entrepreneurship would affect individuals' attitudes to EE, it means that the favourable normative institution would affect effort, zeal as well as actual and perceived performance in EE (Lewis et al., 2009). This would be reflected in the effectiveness of EE. Effectiveness of EE is the level of knowledge and skills acquired through EE (Liñán, 2008). EE is expected not only to develop entrepreneurial capabilities and skills but also enhance understanding of the benefits and importance of entrepreneurship (Mauer et al., 2009; Zhao et al., 2005; Fayolle and Gailly, 2006; Krueger, 2007; Neck and Greene, 2011). Therefore, effectiveness of EE would in turn influence the thinking that business

start-up is not only desirable but also feasible. Based on these perspectives, it is expected that relevant normative institutions would influence perceived feasibility and desirability via effectiveness of EE.

Cognitive Institution and Effectiveness of Entrepreneurship Education

The **cognitive institution** reflects the shared knowledge and skills, possessed by people in a country, pertaining to establishing and operating a new business (Busenitz et al., 2000). Availability of business knowledge increases perceived abilities for new venture creation among would-be entrepreneurs (Gnyawali and Fogel, 1994). In addition, shared entrepreneurship knowledge promotes entrepreneurship in society (Shapero and Sokol, 1982). It is expected that favourable cognitive institutions would affect not only the population's attitude to entrepreneurship but also the attitude to EE. Since individuals' attitude affects learning efforts, receptiveness and performance (Lewis et al., 2009), it is expected that the level of knowledge and skills acquired through EE would be influenced by cognitive institutions. EE not only promotes entrepreneurship through knowledge about its importance and benefits (Walter et al., 2011; Matlay, 2008; Bowen and De Clercq, 2007) but also enhances individuals' human capital through improving their abilities in opportunity recognition and exploitation (Arenius and Clercq, 2005; Lim et al., 2010; Oosterbeek et al., 2010; von Graevenitz et al., 2010). This would increase individuals' likelihood of starting a business (Davidsson and Honig, 2003; Delmar and Davidsson, 2000; Robinson and Sexton, 1994). Therefore, relevant cognitive institutions would influence perceived feasibility and desirability of entrepreneurship indirectly via effectiveness of EE. In line with the above perspectives on how relevant institutions may influence effectiveness of EE, it is postulated as follows:

H3: Entrepreneurship education mediates the effects of institutional factors on perceived feasibility and desirability of entrepreneurship

H3a: Entrepreneurship education mediates the effect of regulatory institution on perceived feasibility and desirability of entrepreneurship
H3b: Entrepreneurship education mediates the effect of normative institution on perceived feasibility and desirability of entrepreneurship
H3c: Entrepreneurship education mediates the effect of cognitive institution on perceived feasibility and desirability of entrepreneurship

6.4.2 Entrepreneurship Education Mediating the Influence of Individual Factors

Risk Taking Propensity and Effectiveness of Entrepreneurship Education

Risk taking propensity reflects an individual's willingness and readiness to pursue opportunities and courses of action involving uncertainty (Zhao et al., 2010). Bearing and managing risk is a fundamental aspect of entrepreneurship. Individuals with high RTP are more likely to regard business start-up as desirable and viable (Zhao et al., 2005; Frank et al., 2007; Segal et al.,2005; Luethje and Franke, 2003; Verheurl et al., 2012; Rauch and Frese, 2007). This is because such individuals are generally comfortable dealing with uncertainty and risky situations. As Individuals with high RTP are more likely to have a favourable attitude to entrepreneurship, they are more likely to be receptive to learn about entrepreneurship. Consequently, the difference in interest and effort would affect performance in EE i.e. effectiveness of EE. Extant literature on general education indicates that attitude influences learning effort and the consequent performance (Blickle, 1996; Chamorro-Premuzic and Furnham, 2003; De Fruyt and Mervielde, 1996; Lewis et al., 2009; Lievens et al., 2002). Effectiveness of EE refers to the level of knowledge and skills acquired through EE. Through various pedagogical approaches, EE helps develop entrepreneurial knowledge and skills as well as an understanding of the benefits of entrepreneurship (Fayolle et al., 2006; Nabi et al.,

2010; Souitaris et al 2007; Matlay, 2008). Thus, effectiveness of EE would influence the perception that business start-up is not only worthwhile but also viable. Based on these considerations, it is expected that RTP would exert its influence on perceived feasibility and desirability indirectly via effectiveness of EE.

Internal Locus of Control and Effectiveness of Entrepreneurship Education

An individual with an **internal locus of control** believes that through effort one can achieve his or her goals (Ahmed, 1985; Rotter, 1966). Individuals with high ILC are more likely to choose an entrepreneurial career (Rauch and Frese, 2007; Frank et al., 2007; Verheul et al., 2012; Luethje and Franke, 2003). This is because such individuals find entrepreneurship attractive as it provides a direct link between effort and outcomes. Furthermore, individuals with higher ILC would generally enter EE with higher confidence in their ability to perform in education and in the challenging tasks of entrepreneurship. Such individuals would be learning to perform tasks that they already find challenging and attractive. Hence, they would be more eager to learn how to be successful entrepreneurs. Extant literature on general education indicates that attitude influences effort in learning and the consequent performance (Blickle, 1996; Chamorro-Premuzic and Furnham, 2003; De Fruyt and Mervielde, 1996; Lewis et al., 2009; Lievens et al., 2002). The high interest in entrepreneurship by individuals with high ILC would affect effort and, hence, performance in EE i.e. effectiveness of EE. Effectiveness of EE refers to the level of entrepreneurship knowledge and skills acquired through EE. Through various pedagogical approaches, EE develops entrepreneurial skills and knowledge as well as an understanding of the benefits entrepreneurship (Von Graevenitz et al. 2010; Mauer et al., 2009; Marques et al., 2012). Thus, EE would influence the perception that entrepreneurship is valuable and possible. The

current research posits that ILC would exert its influence on perceived feasibility and desirability indirectly via effectiveness of EE.

Need for Achievement and Effectiveness of Entrepreneurship Education

Need for achievement is an individual's persistence, hard work and motivation for significant accomplishment (McClelland, 1961; McClelland, 1965; McClelland, 1967). A high NAch is a motivation that leads an individual to seek activities and tasks that provide clear feedback on outcomes; activities that pose a high challenge and yet achievable through individual effort and skill. Starting and managing one's own business is one such activity. Since individuals with high NAch are likely to find entrepreneurship attractive (Rauch and Frese, 2007; Dohse and Walter, 2012), such individuals are also likely to have high interest in EE. This would affect effort and the consequent performance in EE (Lewis et al., 2009; Matlay, 2010). EE develops one's entrepreneurial capabilities and clarifies the benefits of entrepreneurship (Gibcus et al., 2012; Morris et al., 2013). This would in turn influence confidence that business start-up is achievable and valuable. Based on these considerations, it is expected that NAch would exert its influence on perceived feasibility and desirability indirectly via effectiveness of EE.

Prior Entrepreneurial Exposure and Effectiveness of Entrepreneurship Education

Scholars indicate that individuals with high prior entrepreneurial exposure (PEE) are more likely to find entrepreneurship attractive (Falck et al., 2012). They are also more likely to have confidence in their abilities to start and manage a business (Krueger, 1993; Zellweger et al., 2011). This is because such individuals are exposed to entrepreneurship; they have some level of understanding of what is involved in entrepreneurship and its benefits. Because of their interests in entrepreneurship, such individuals are expected to have high interest in EE (Peterman and Kennedy, 2003). This would affect effort and the consequent

performance in EE (Lewis et al., 2009; Matlay, 2010). EE clarifies the rewards of entrepreneurship and develops one's entrepreneurial capabilities (Gibcus et al., 2012; Morris et al., 2013). This would in turn influence confidence that business start-up is possible and valuable. Based on these considerations, it is expected that PEE would exert its influence on perceived feasibility and desirability indirectly via effectiveness of EE. On the basis of the above perspectives, the following hypotheses are proposed:

H4: Entrepreneurship education mediates the effects of individual factors on perceived feasibility and desirability of entrepreneurship

H4a: Entrepreneurship education mediates the effect of risk taking propensity on perceived feasibility and desirability of entrepreneurship
H4b: Entrepreneurship education mediates the effect of internal locus of control on perceived feasibility and desirability of entrepreneurship
H4c: Entrepreneurship education mediates the effect of need for achievement on perceived feasibility and desirability of entrepreneurship
H4d: Entrepreneurship education mediates the effect of prior entrepreneurial exposure on perceived feasibility and desirability of entrepreneurship

6.5 Influence of Perceived Feasibility and Desirability on EI

An individual's intention determines whether a particular course of action is pursued or not (Bird, 1988; Gasse and Tremblay, 2011). It reflects a person's beliefs and willingness to engage in certain behaviour (Fishbein and Ajzen, 2011). Since one's intention is a good predictor of subsequent behaviour (Ajzen, 2011b; Henley, 2007; Kautonen et al., 2013), understanding the nature of the immediate antecedents of EI is of crucial importance to the study of entrepreneurial behaviour (Shane and Venkataraman, 2000). Some scholars propose that entrepreneurial motivation is largely based on "pull" factors (Gilad and Levine, 1986). This means that individuals seeking independence, self-fulfilment, wealth, and other desirable outcomes are more likely to find entrepreneurship attractive (Keeble et al., 1992; Orhan and Scott, 2001). This is because such Individuals may believe that entrepreneurship, compared to other alternatives, offers better means for

achieving these desirable outcomes (Carter et al., 2003; Segal et al., 2005; Shapero and Sokol, 1982). Therefore, they would choose an entrepreneurial career.

Similarly, Vroom's expectancy theory (Vroom, 1964) suggests that an individual will choose to engage in a particular behaviour if a) he or she believes that the outcome of those actions is attractive (i.e. valence or value) and b) he/she expects that those actions will be followed by a given outcome (i.e. expectancy). Scholars suggest that the concepts of valence and expectancy are the same as desirability and feasibility, respectively (Steel and Konig, 2006). Therefore, consistent with the basic EI model (Shapero and Sokol, 1982; Ajzen, 1991; Bandura, 2002), it can be argued that an individual's preferences and choice of which behaviour to actively pursue will be dependent on the evaluative criteria of desirability and feasibility for that behaviour (Gollwitzer, 1996; Steel and König, 2006; Veciana et al., 2005). Perceived desirability of entrepreneurship refers to the personal attractiveness of entrepreneurship. It is expected that individuals who find the rewards of starting and managing their own business attractive would not only find entrepreneurship valuable but they would also choose an entrepreneurial career. Similarly, perceived feasibility of entrepreneurship is the degree to which one believes that not only is he/she personally capable of starting and managing a business but that entrepreneurship is a viable undertaking. It is expected that individuals who consider themselves personally capable of starting and managing a business would choose an entrepreneurial career. Prior studies provide evidence that the consistent immediate antecedents of EI are perceived feasibility and desirability of entrepreneurship (Brännback et al., 2006; Krueger JR et al., 2000; Li, 2007; Liñán and Chen, 2009; Schlaegel and Koenig, 2014). For instance, Fitzsimmons and Douglas (2011) establish that the higher the level of perceived

feasibility and desirability of entrepreneurship, the higher the level of EI. On the bases of the above evidence, it is hypothesised as follows:

H5: Perceived feasibility and desirability of entrepreneurship are positively associated with entrepreneurial intention

H5a: Perceived desirability of entrepreneurship is positively associated with entrepreneurial intention
H5b: Perceived feasibility of entrepreneurship is positively associated with entrepreneurial intention

6.6 Conclusions

EI is critical in the entrepreneurial process because individuals with high EI are more likely to start a business than those with low EI. The small but growing body of research on the impact of EE on EI shows mixed and sometimes contradictory conclusions. Some studies find positive effect and others report negative impact of EE on EI. Responding to this knowledge gap, this chapter proposes a conceptual model and develops hypotheses to guide enquiry into whether EE has an intervening role on the relationships between individual and institutional factors and EI. Specifically, the chapter hypothesises that individual and institutional factors exert their influence on perceived feasibility and desirability of entrepreneurship in two ways: directly and indirectly via effectiveness of EE. Perceived feasibility and desirability of entrepreneurship in turn determine EI. To test the model and develop in-depth understanding of the phenomena, both qualitative research and quantitative research are required. The next chapter emphasises the justification for the adopted concurrent triangulation strategy, sampling and data collection procedures as well as validity and reliability of measurements.

CHAPTER 7: RESEARCH DESIGN, METHODS AND TECHNIQUES

7.0 Introduction

The preceding chapter develops the conceptual model of the study. This chapter is concerned with the research methodology. In the extant literature, the majority of studies investigating the effect of entrepreneurship education (EE) on entrepreneurial intention (EI) employ quantitative strategies (Rideout and Gray, 2013) and they are conducted in developed countries, therefore limit generalisability of findings elsewhere (Gartner, 2010; Nabi and Liñán, 2011; Solesvik et al., 2013). Combinations of positivistic research (addressing 'what' issues) and interpretivistic research (addressing 'why' and 'how' issues) are rare and yet important for model testing and in-depth understanding of research problems (Gartner, 2010; Stevenson and Jarillo, 1990; van Burg and Romme, 2014). This chapter includes six sections: justifications for research design choice and implementation (7.1); population, sampling and data collection procedures (7.2); validity and reliability analyses of quantitative research measures (7.3, 7.4 and 7.5); and statistical controls as well as checks for common methods bias (7.6).

7.1 Research Design Choice, Justifications and Implementation

Scholars portray research design as the overall plan for undertaking research and it comprises an intersection of philosophies, approaches, strategies and related methods of enquiry (Creswell, 2009; Creswell, 2014). The central point is that it is a framework for the generation of evidence that is suitable for examining research questions (Bryman and Bell, 2011; Denzin and Lincoln, 2011). In this regard, research design explicitly or implicitly involves decisions about research philosophy, which in turn guides the research approach chosen. Research

approach influences selection of strategy of inquiry which in turn has a bearing on choice of research methods. Research methods are simply a collection of techniques and procedures for collecting and analysing data (Gill and Johnson, 2002; Saunders et al., 2012). Figure 7.1 depicts these interrelationships.

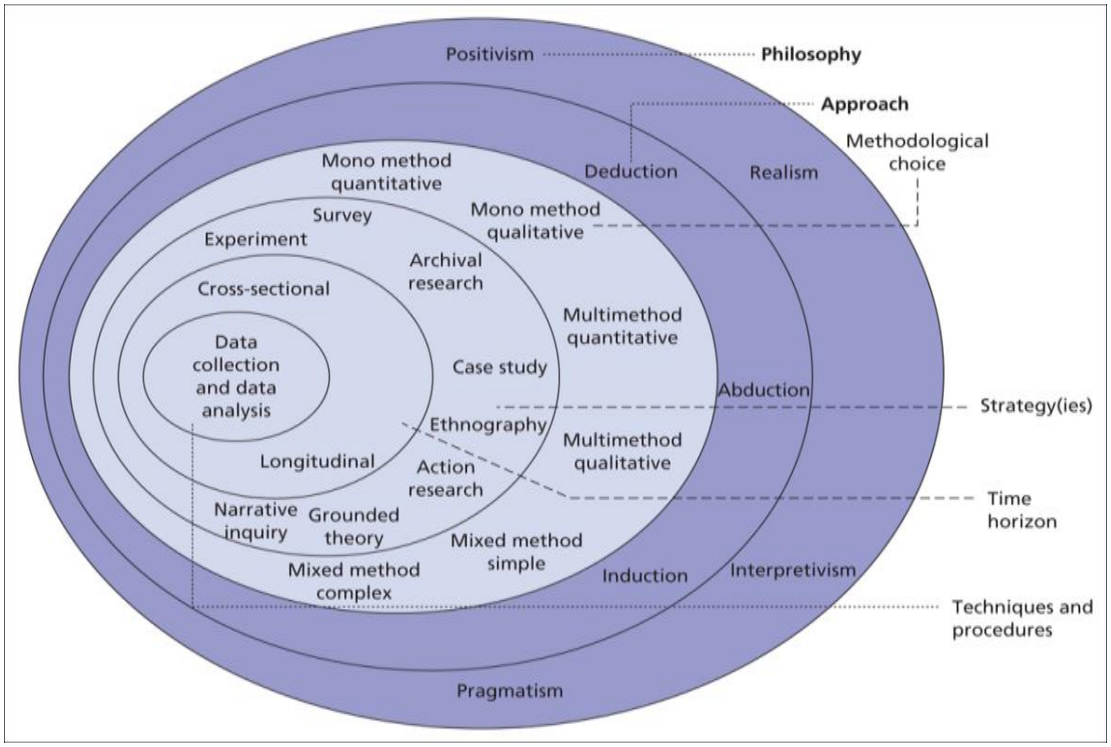


Figure 7.1 – Saunders et al.'s (2012) Research Design Elements

7.1.1 Research Philosophy

Research philosophy involves a set of assumptions/beliefs about how the world operates. This set of beliefs places strict guidelines and principles on how research should be conducted (Burns and Burns, 2008). Consequently, it is an overarching term that refers to how new knowledge is developed in a particular field and what the nature of that knowledge is (Saunders et al., 2009). Not only does it reflect the relationship between knowledge and the process of generating it, but also it is the basis for choice of particular research approach, strategy and methods. In social sciences, philosophy has four constituent elements: epistemology, axiology, ontology and the nature of human action/behaviour (Bryman and Bell, 2011; Gill and Johnson, 2002; McAuley et al., 2007). Firstly,

epistemology focuses on whether knowledge can, is or should be generated objectively or subjectively. Secondly, axiology considers judgements of value that guide choice among various alternative steps in the process of social enquiry (Heron, 1996). Thirdly, ontology considers the nature of knowledge and phenomena as to whether they exist objectively or subjectively. Fourthly, assumptions about the nature of human behaviour focus on how the ontological difference between social phenomena and objects of investigation in natural sciences should be taken into account when conducting research (Bryman and Bell, 2011; McAuley et al., 2007; Schutz, 1962; Schutz, 1970).

Any research philosophy adopted reflects an intersection of epistemological, ontological, axiological and nature of human action considerations (Creswell, 2014; Crotty, 1998; Denzin et al., 2008; Guba, 1990; Guba and Lincoln, 1994; Kuhn, 1970; Lincoln and Guba, 2000; Mertens, 2009; Neuman, 2009). Despite several variations of the terminology, broadly there are four research philosophies i.e. positivism, interpretivism, realism and pragmatism (Saunders et al., 2009). Each of these is briefly discussed below:

7.1.1.1 Positivism

Positivism, originating from “positive philosophy” coined by the 19th century French philosopher August Compte (Compte, 1854; Compte, 1975), largely adopts natural scientists’ stance of ‘working with observable social reality’. The end product of such research can be law-like generalisations similar to those produced by natural scientists (Remenyi et al., 1998). Positivism seeks to explain what happens in the social world by searching for causal relationships between its constituent parts (Burrell and Morgan, 1979). This entails employing and extending existing theory to develop hypotheses. The hypotheses developed become the basis for fact gathering (observable reality) that provides the basis for subsequent testing. The

end result is confirmation, in whole or in part, or rejection of the hypotheses (Gill and Johnson, 2002; McAuley et al., 2007; Popper, 1959; Popper et al., 1972). Positivism also embraces highly structured, systematic and objective methods (nomothetic methods) in order to facilitate research replication and generalisability of findings (Baker, 2003; Burrell and Morgan, 1979; Gill and Johnson, 2002). The emphasis is quantifiable observations that lend themselves to statistical analyses (Bryman and Bell, 2011; Burrell and Morgan, 1979; Remenyi, 1998).

The main critique against positivism is its lack of recognition that there is an ontological difference between social phenomena and the objects of investigation in natural sciences. Unlike natural sciences, social sciences focus on human action which has an internal logic of its own. This internal logic should be explored in order to understand why an individual behaves the way he or she does (Gill and Johnson, 2002; Laing, 1967). This latter perspective is the basis for the research philosophy that is discussed next.

7.1.1.2 Interpretivism

Interpretivism fully recognises the ontological difference between social phenomena and the research objects in natural sciences. Consequently, it encourages social scientists to grasp the subjective meaning of social action (Bryman and Bell, 2011; Weber, 1947). The challenge for research is to adopt an empathetic stance i.e. to enter the social world of the research subjects and understand the scenario from their point of view (Saunders et al., 2009). The following quote from Schultz offers the core of this philosophy (Schutz, 1962; Schutz, 1970):

> *"The world of nature as explored by the natural scientist does not "mean" anything to molecules, atoms and electrons (it-beings). But the observational field (context) of the social scientist – the social reality- has specific meaning and relevance structure for the human beings living, thinking and acting within it. By a series of common-sense constructs, they*

> *have pre-selected and pre-interpreted this world which they experience as the reality of their daily lives. It is these thought objects of theirs which determine their behaviour by motivating it. The thought objects constructed by the social scientist, in order to grasp this social reality, have to be founded upon the thought objects constructed by the common-sense of men and women living their daily lives within the social world."* (Schutz 1962, p. 59, quoted in Bryman and Bell, 2011).

The central theme of interpretivism is that individuals' interpretation, meaning and understanding of the world around them (i.e. social context) form the basis for their actions (Blumer, 1966; Blumer, 1986; Bryman and Bell, 2011; Dewey, 1931; Mead, 1925; Mead, 2009; Rose, 1962). Interpretivism further holds that not only are social situations complex but they are also unique; they are a function of a particular set of circumstances and individuals involved (Bogdan and Taylor, 1975; Bryman and Bell, 2011). The implication is that research that aims to capture the rich complexity of social situations is unlikely to generate findings which are generalisable to the larger population. The social world is ever changing; circumstances of today may not repeat in future and each social setting is different. Hence, interpretivism leads to adopting a flexible research process and methods which flow from the views gathered from the subjects of research. Indeed, interpretivism embraces methods that capture subjective accounts generated by getting inside research subjects' situations to understand their point of view (ideographic methods).

7.1.1.3 Realism

Realism holds that there is reality whose existence is independent of people's knowledge and description of it. Thus, social scientists should direct their attention to examine and understand this reality (Bhaskar, 2008; Bryman and Bell, 2011; Johnston and Smith, 2010; Saunders et al., 2009). Realism shares two features with positivism. Firstly, both paradigms suggest that the natural and social sciences can and should apply the same kinds of approach and methods for collection, analyses, understanding and explanation of data (Bryman and Bell,

2011). Secondly, both paradigms suggest that there is an external and objective reality to which scientists should direct their attention. In other words, there is reality that is separate or independent from researchers (Saunders et al., 2009). There are two major forms of realism that are often contrasted. Firstly, empirical realism simply asserts that through use of appropriate methods, reality can be understood. Because it focuses on observable reality, it "fails to recognise that there are enduring structures and generative mechanisms underlying and producing observable phenomena and is, therefore, superficial" (Bhaskar,1978, p.2). Secondly, critical realism (CR) is a specific form of realism whose manifesto is to recognise the reality of the natural order, events and discourses of the social world. However, CR goes further to recognise that, "we will only be able to understand- and so change- the social world if we identify the (unobservable) structures at work that generate those (observable) events and discourses…. These structures are not spontaneously apparent in the observable pattern of events; they can only be identified through the practical and theoretical work of the social scientists" (Bhaskar, 1975, p.150, quoted in Bryman and Bell, 2011, p.17). As a result, the proper job of scientists is to attempt systematically to identify the entities responsible for an event and to describe the generative mechanism (Bhaskar, 1978a; Bhaskar, 1978b; Bhaskar, 1998; Bhaskar, 2008; Johnston and Smith, 2010).

7.1.1.4 Pragmatism

Pragmatism is a philosophical tradition with the view that sometimes choosing one philosophical paradigm (e.g. positivism) rather than the other (e.g. interpretivism) may be unrealistic in practice. Consequently, pragmatism suggests that the most important determinant of choice of research philosophy is the nature of the research question(s). On the one hand, one philosophical paradigm may sometimes be more appropriate than the other(s) to answer particular research

questions(s). On the other hand, if the nature of the research question does not suggest unambiguously that either a positivist or an interpretivist philosophy be adopted, this suggests the pragmatist's view may be a possibility. This view derives from the work of Peirce, James, Mead and Dewey (Cherryholmes, 1992; Creswell, 2014; Saunders et al., 2009) and other recent writers (Murphy and Rorty, 1990; Patton, 1990; Patton, 2005; Rorty, 1990). Pragmatism is generally concerned with what is applicable (i.e. what works) to find a solution for a research problem (Patton, 1990). The main point is that researchers should focus on the research problem and then use all relevant and necessary research paradigms, approaches and methods to comprehensively understand the research problem (Creswell, 2014; Patton, 1990; Patton, 2005; Rossman and Wilson, 1985). As a consequence, pragmatism is usually the philosophical underpinning for mixed research strategies and methods (Morgan, 2007; Saunders et al., 2009; Tashakkori and Teddlie, 1998; Tashakkori and Teddlie, 2010).

7.1.1.5 Justification for the Philosophical Choice

Based on the nature of the research problem, pragmatism was chosen as the research paradigm underpinning this study. Firstly, research investigating the effect of EE on EI has yielded equivocal conclusions. Secondly, there is a shortage of research examining the possibility that EE intervenes in the relationships between EI and its individual and institutional determinants. Further, only with a few exceptions (Matlay, 2008; Woodier-Harris, 2010), most studies on EI are not only positivistic (Gartner, 2010; Rae, 2000) but they are also conducted in developed countries, limiting the generalisability of prior research findings elsewhere (Nabi and Liñán, 2011). Consequently, scholars call for research on EI that use multi-methods to address challenges in prior research (Fayolle and Liñán, 2014).

With this background, both quantitative research and qualitative research were required. With regard to model testing, it was planned to employ the positivistic paradigm. This was because highly structured and objective methods were able to assess whether the conceptual model could be accepted and generalised to the relevant population. However, positivistic research has its limitations.

> *"With quantitative (positivistic) research, we cannot capture the decision dynamics that underlie the hypothesised relationships—that is, the individual cognitive processes by which the macro-level factors we study affect and complement people's resources in their decision to engage in new business activity (Lim et al., 2010). Additional research might use qualitative interviews with entrepreneurs, as well as other stakeholders involved in entrepreneurship support or policy making, to capture and measure individual-level cognitive mechanisms that facilitate, or hamper, the full exploitation of their and others' resources to support new business endeavours."* De Clercq et al. (2011, p.17)

Qualitative research based on the interpretivistic paradigm was required for in-depth understanding of the research problem from the Zambian context (Blundel, 2007; Bygrave, 1989; Gartner, 2010; Rae, 2000). The overall rationale was that triangulation would provide the basis for determining convergence or divergence of findings on the social phenomenon.

7.1.2 Research Approaches and Theory

Research approach is the process by which social science theories are generated, evaluated and justified (Gill and Johnson, 2002; Saunders et al., 2009). Consequently, it is a general orientation of the relationship between theory and research (Bryman and Bell, 2011, p11). Generally, there are two major approaches to research: induction (for theory building) and deduction (for theory testing).The two alternatives should not be seen as mutually exclusive; in many cases, they can complement each other (Blundel, 2007; Danermark, 2002; Eriksson and Lindström, 1997; Gill and Johnson, 2002; Lawson, 1996; Lewin and

Cartwright, 1952; Patokorpi, 2006; Peirce, 1955; Saunders et al., 2009). Induction and deduction are explained below.

7.1.2.1 Inductive Approach

If research follows a sequence that starts with specific observations (data), followed by description and analysis of data to determine if there are patterns emerging as a basis for explaining what is observed (theory), the approach is said to be inductive. It is a bottom-up approach which develops theory from initial data (Burns and Burns, 2008; Bryman and Bell, 2011). In this sense, induction starts from the specific (observations) and proceeds to the general (theory). Inductive inference means drawing general conclusions based on a limited number of observations. It is assumed that what is valid for the observed cases may also be valid for the whole population in that context (Bryman and Bell, 2011; Hempel and Oppenheim, 1948). Since inference is not dependent on any premises, the discovery of new knowledge is unlimited. However, the weakness of induction is that it is difficult to say for sure to what extent the findings can be generalised because of limitations in sample size.

7.1.2.2 Deductive Approach

Unlike the inductive approach, the deductive approach reverses the sequence of the research process. It starts with using existing theory, developing hypotheses, collecting and analysing data (observations) in order to test, refute or confirm the hypotheses (Burns and Burns, 2008; Saunders et al., 2009). Thus, the deductive approach is a top-down process working from the general (theory) to the specific (observation). Deductive inference means using formal logic to deduce conclusions from given premises (Bryman and Bell, 2011; Popper, 1959). The strength of deductive inference is that it tells researchers whether their conclusions are valid or not. The weakness, however, is that deductive approach may not be

able to provide the in-depth rationale for human behaviour i.e. it may be not able to adequately answer the how and why questions of social phenomena.

7.1.2.3 Justification for Research Approach

Generally, deduction is associated more with positivism and induction with interpretivism. However, some scholars argue that this classification is potentially misleading and of no real practical value (Lund, 2005; Saunders et al., 2009). Moreover, pragmatic perspectives suggest that it is possible for a research cycle to emerge where conclusions of an inductive approach (theory building) can be further evaluated to confirm the findings using the deductive approach (theory testing). Conversely, it is also possible that a deductive study may unearth some unexpected and hard to explain result which could then be explored by using an inductive approach (Burns and Burns, 2008; Lund, 2005; Creswell, 2014).

Creswell (2014) suggests criteria to determine whether a particular research problem should be tackled inductively or deductively or both. Firstly, a topic in which there is a lot of literature from which one can define a theoretical framework and hypotheses lends itself more to deduction. However, for topics that are new and on which there is scant literature, it may be more appropriate to work inductively by generating data, analysing it, and reflecting on the theoretical themes the data suggests. Secondly, the time available may also be an issue. Deductive research can be quicker while inductive research can be more protracted. Lastly, the needs, interests, preferences and practicalities for stakeholders should be another guide for the decisions (Buchanan et al., 1986; Buchanan and Bryman, 2009; Saunders et al., 2009). For the current research, after conceptualising a model based on extant literature, a deductive quantitative approach was necessary for model tesing. At the same time, since the Zambian

context is under–researched, it was necesssary to have an in-depth understanding of the research issues.

7.1.3 Research Strategies

Research strategy is a general orientation to the conduct of research and it can either be a qualitative or quantitative strategy or both (Bryman and Bell, 2011). While some argue that qualitative/quantitative research classification is ambiguous, not useful or even false (Layder and Layder, 1993), others insist that the classification is very informative (Saunders et al., 2009). Any strategy chosen provides specific direction for the methods and techniques to be used in data collection and analyses (Saunders et al., 2009; Creswell, 2014). Alternative research strategies are briefly explained below.

7.1.3.1 Quantitative and Qualitative Strategies

Quantitative research strategy emphasises quantification (numbers) in the measurement, collection and analysis of empirical data. This may require a deductive approach where the focus is theory testing (Saunders et al., 2009). This strategy not only incorporates the practices and norms of the natural scientific model but also embodies a view of social reality as an external, objective reality.

Conversely, qualitative research is a strategy that emphasises narrative experiences and accounts of social actors rather than quantification of empirical data. This predominantly relies on an inductive approach where the focus is on theory generation/building. This strategy rejects the practices and norms of the natural scientific model. Instead, the strategy emphasises on the ways in which individuals interpret their social world. This strategy embodies a view of social reality as a constantly shifting emergent property of individuals' creation (Bryman and Bell, 2011). Thus, it stresses the importance of understanding social

phenomena through gathering subjective viewpoints or meaning held by relevant individuals.

7.1.3.2 Mixed Methods Strategies

Mixed methods strategies originated in the 1950s' when scholars utilised multi-methods to validate psychological traits (Campbell and Fiske, 1959; Creswell, 2014). The recognition that qualitative and quantitative methods should be viewed as complementary rather than rival led to the preference for mixed methods, given the strengths and weaknesses inherent in each single method (Denzin, 1970; Denzin, 1978; Denzin and Lincoln, 2011; Jick, 1979; Tashakkori and Teddlie, 2010; Webb et al., 1966). Mixed methods strategies can be employed for illustration, convergent validation or the development of analytic density or ''richness'' (Fielding and Fielding, 2008; Fielding, 2010; Fielding and Fielding, 1986; Fielding, 2012). Triangulation is about examining a research issue from different angles (Denzin, 1970). While triangulation is initially understood as a validation strategy, broadly, four different forms are available:

a) Data triangulation: gathering and comparing different types of data from different sources e.g. data about the same phenomenon from different stakeholder groups may be collected at different times and social situations;
b) Investigator triangulation: the use of more than one researcher to gather and interpret data so as to balance out the subjective influences of individuals;
c) Theoretical triangulation: the use of more than one theoretical position in interpreting data; and,
d) Methodological triangulation: the use of more than one method for data collection.

Broadly, there are two uses of methodological triangulation. Firstly, triangulation can be the combination of two different methodologies in a study of research objects. As Webb et al. (1966) argued, once a proposition has been confirmed by two or more independent processes, the uncertainty of its interpretation is greatly reduced. Convergence or agreement between two methods enhances researchers' belief that the results are valid (Bouchard, 1976). However, if results between two methods are divergent, this raises additional research issues to be investigated. This kind of triangulation is labelled by Denzin (1978, p.302) as "between-methods" triangulation.

Secondly, another use of methodological triangulation is "within-method" (Denzin, 1978). This entails use of multiple techniques within a given method to collect and interpret data. For instance, for quantitative methods such as survey, this can take the form of using multiple scales about the same variable. For qualitative methods such as participant observation, this may entail observing multiple groups whose results can be compared. This helps the researcher to develop more confidence in the emergent theory (Glaser and Strauss, 2009). In short, "within-method" triangulation essentially involves cross-checking for internal consistency or reliability while "between-methods" triangulation tests the degree of external validity.

To implement "between-methods" triangulation, Creswell (2009, 2014) proposes three basic alternative strategies:

- **Concurrent Triangulation Strategy**
  This strategy involves collecting both qualitative and quantitative data concurrently and then comparing the results to determine if there is convergence or difference. This comparison is also known as confirmation, disconfirmation, cross validation, or corroboration (Creswell, 2014; Morgan,

2007). The overall purpose is to provide comprehensive analyses of the research problem by comparing integrated information during the interpretation of the overall results.

- **Explanatory Sequential Triangulation Strategy**
  This strategy is characterised by the feature that the collection and analyses of quantitative data (phase 1) informs the collection and analyses of qualitative data (phase 2). Phase 2 builds on the initial results of phase 1 and its purpose is to provide a follow up in-depth explanation and interpretation of specific, especially unexpected, quantitative results (Morse, 1991). The challenge with this strategy is the choice of specific results to further explore and the unequal sample sizes for each phase.

- **Exploratory Sequential Triangulation Strategy**
  This strategy involves qualitative data collection and analyses at phase 1, followed by quantitative data collection and analyses at phase 2. The primary purpose of this strategy is to explore a phenomenon, then quantitatively test elements of an emergent theory resulting from the qualitative phase in order that qualitative findings can be generalised (Morgan 2007; Morse 1991). This strategy can also use qualitative results to develop, build or identify an instrument that best fits the context under study (Creswell and Clark, 2007). Of particular challenge with this strategy is sample selection for both phases as well as the qualitative findings to focus on as a basis for the quantitative research (Creswell and Plano-Clark, 2011; Creswell, 2014).

7.1.4 Justification for Research Strategy and Methods

The research strategy chosen for this study was concurrent triangulation; this meant collecting both quantitative and qualitative data simultaneously. The strategy was intended for model testing and in-depth understanding of phenomena (Creswell, 2014; Morse, 1991). The basis for this choice was three-fold. Firstly, because there was existing literature from which a conceptual model and hypotheses could be developed, a quantitative study was deemed appropriate for model testing. The quantitative research ensured that highly structured and objective methods were employed in order to test hypotheses, facilitate research replication and generalise findings. This was accomplished through the survey method, facilitated by a structured self-completed questionnaire as a data collection instrument (Appendix 7.5). This method is the most common in EI and EE research (Liñán et al., 2011; Souitaris et al., 2007; Fayolle et al., 2006). But this method was not adequate to comprehensively address the problem given the fact that previous studies on the effect of EE on EI have yielded mixed conclusions. Scholars indicate that quantitative research can only identify relationships between variables but cannot provide in-depth rationale (Gartner, 2010; De Clercq et al., 2011). For in-depth rationale, qualitative research is required.

> *"…at the methodological level…following suggestions by Shook et al. (2003), researchers in EI should attempt to triangulate their findings using multi-method studies."* Fayolle and Liñán (2014, p.664)

> *"…only a few studies in entrepreneurship employ mixed methods strategies. Mixed methods may help to improve entrepreneurship research addressing challenges emphasised in earlier studies…to advance our understanding of the entrepreneurial phenomena."* Molina-Azorin et al. (2014, p.425)

> *"…qualitative phenomenon-driven research…is especially effective in addressing "how" and "why" in unexplored or underexplored research areas with little viable theory and empirical evidence."* Wang and Chugh, (2014, p.41)

Secondly, due to the foregoing limitations of quantitative research, qualitative research was required to provide in-depth understanding of the research issues from the under-researched Zambian context (Creswell, 2014; Morse, 1991). To facilitate qualitative research, insights based on the knowledge and experiences of relevant stakeholder groups were sought through in-depth interviews, as a research method. The interviews were facilitated by a semi-structured questionnaire as a data collection instrument (Appendix 7.4). One advantage of interviews is the likelihood of collecting affluent information, as well as allowing the interviewer to clarify any responses. However, one disadvantage is the limited number of interviews one can have due to various resource constraints (Colombotos, 1969; Creswell, 2014; Novick, 2008; Opdenakker, 2006). Qualitative research has not been intensively used by studies investigating the effect of EE on EI.

Lastly, it was believed that through the concurrent triangulation strategy, the combined research results may provide a deeper and broader understanding of entrepreneurial intention and the associated factors (Fielding and Fielding, 2008; Fielding, 2012; Stevenson and Jarillo, 1990; van Burg and Romme, 2014). Figure 7.2 below summarises the research procedure.

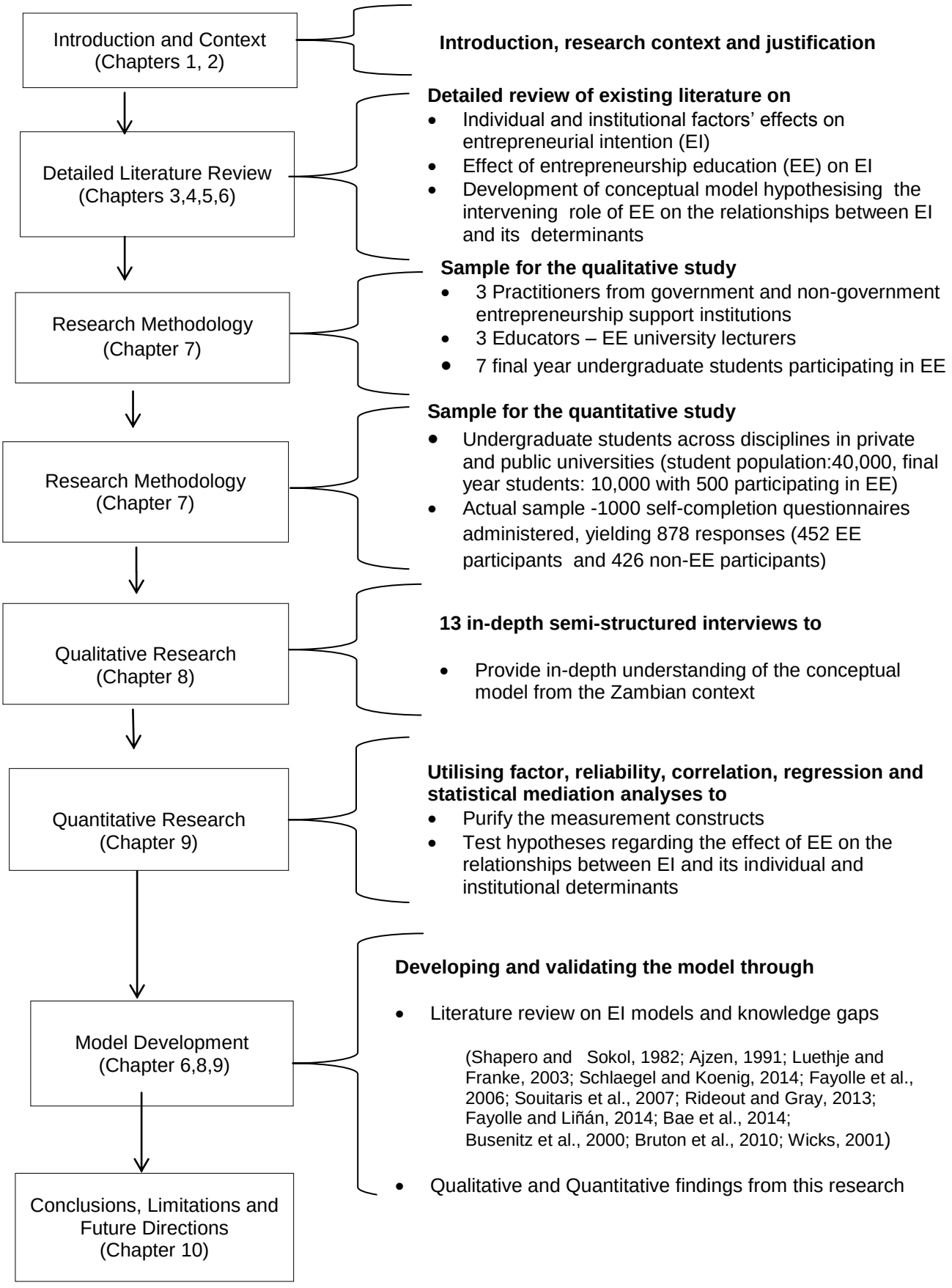


Figure 7.2 - Framework of the Research and Methodology

7.2 Population and Samples

The principal purpose of this study was to investigate the effect of EE on the relationships between individual and institutional factors and EI of university graduates. As discussed in Chapter 2 (section 2.3), Zambia is experiencing a problem of high youth and graduate unemployment and there is need to explore determinants of EI in order to understand how to promote graduate entrepreneurship. This would benefit the society because prior research in developed countries indicates that graduates, especially EE alumni, are more likely to engage in entrepreneurship at a high level (Gibcus et al., 2012; Pickernell et al., 2011). However, in the absence of a database of contact details for graduates who had previously received EE, university students, particularly final year students were the proxy population.

Using final year students as a target research population is an acceptable method to examine EI (Kolvereid, 1996; Krueger, 1993; Krueger et al., 2000; Luethje and Franke, 2003; Souitaris et al., 2007; Liñán et al., 2011; Iavlokeva et al., 2011; Nabi et al., 2010). This is because firstly, final year students face an immediate career choice and starting a business may be a realistic option for some (Segal et al., 2005; Krueger et al., 2000). Thus, they may answer the research questions more consciously (Bateman and Zeithaml, 1989; Trice, 1991). In addition, their responses are more likely to be predictive of actual career choices (Liñán and Chen, 2009; BarNir et al., 2011). Secondly, final year students face what Shapero and Sokol (1982) refer to as a displacement event. This means an event that prompts an individual to consider doing or not doing something. In this case, completion of their undergraduate studies compels them to consider the best available opportunity. Their alternatives typically include organisational employment, starting a business or embarking on further studies. Thirdly, prior

studies find that individuals, including graduates, in the age group 22 to 35 years exhibit the highest propensity to start-up a business if enabling factors are in place. Indeed final year students fall in this category (Henley, 2007; Liñán, 2008; Reynolds et al., 2002).

Research Sample Selection

For the qualitative study, a purposive sample of 7 final year undergraduate students undertaking EE was selected. Additionally, 3 practitioners from entrepreneurship support institutions and 3 entrepreneurship educators (university lecturers) were included. This is because it was believed that practitioners and educators would provide a more comprehensive assessment of the entrepreneurial environment and the factors influencing EI.

For the quantitative study, while the total student population in Zambia was about 40000, around 10 000 were final year students. Due to budgetary, time and logistical constraints, it was impractical to collect data from all final year university students. Therefore sampling from final year students was undertaken. There were 12 established universities in Zambia at the time of the survey (i.e. those that had been in existence for more than 5 years); 3 public and 9 private universities. While about two thirds of the student population were in public universities, only one third were in private universities. From the estimated number of final year students of 10,000, only 500 participated in EE (UNESCO Institute of Statistics, 2013; Southern African Regional Universities Association, 2012; Universities in Zambia, 2013). At the time of data collection, only 8 of the 12 universities had students available for the survey. Students in the other 4 universities were on holiday. However, none of the universities whose students were on holiday offered EE.

With a population of 10,000, the minimum required representative sample size would be 370, at confidence level of 95% and margin of error of 5%[13] (Saunders et al., 2009, p.212 and p.585). To reduce the likelihood of low reponse rate, 1000 questionnaires were delivered and this yielded an actual sample of 878. This represented a response rate of 87.8%, exceeding the minimum 370 required for a representative sample. The survey sample selection procedure is shown in Table 7.1a.

Table 7.1a – Survey Sample Selection Procedure

#	Description	Number
1	Total Undergraduate Student Population	40,000
2	Final Year Students (Target Research Population)	10,000
3	Final Year Students Not Participating in Entrepreneurship Education (EE)	9500
4	Final Year Students Participating In EE	500
5	Required Representative Sample From Target Population (Assuming 100% Response Rate)	370
6	Survey Questionnaires Administered (To Mitigate Risk of Low Response Rate) i.e. 500 EE Participants and 500 Non-Participants	1000
7	Useful Completed Questionnaires Received (actual Sample)	878
8	Proportion Of Non-Participants In EE in the Actual Sample	426/878=49%
9	Proportion Of EE Participants In the Actual Sample	452/878=51%

13

$$\boldsymbol{n} = \frac{\boldsymbol{N}(\boldsymbol{p}\%\ \boldsymbol{X}\ \boldsymbol{q}\%\ \boldsymbol{X}\ \boldsymbol{z}^{\boldsymbol{2}})}{\{(\boldsymbol{N}-\boldsymbol{1})\boldsymbol{e}\%^{\boldsymbol{2}} + (\boldsymbol{p}\%\boldsymbol{X}\boldsymbol{q}\%\boldsymbol{X}\boldsymbol{z}^{\boldsymbol{2}})\}}$$

Where
n is the minimum sample size required (see also http://www.raosoft.com/samplesize.html,)
N is the population size
ρ% is the proportion belonging to a specified category (if unknown use 50% which gives the largest sample size)
q% is the proportion not belonging to the specified category
z is the z value corresponding to the level of confidence(Z= 1.96 for 95%, 2.57 for 99%, 1.65 for 90%)
e% is the margin of error that can be tolerated (usually 5%, 1% or 10% in line with Confidence level)

Internal and External Validity in Qualitative and Quantitative Research

With the concurrent triangulation strategy adopted for this research, both internal and external validity were checked. LeCompte and Goetz (1982) suggest that internal validity considers whether there is a good match between the researcher's observations (data) and the theoretical ideas they develop. Internal validity is a particular strength of qualitative research because transcripts of interviews, especially if they are confirmed by the participants, provide a basis for checking the level of congruence between concepts and observations. External validity refers to the degree to which the findings can be generalised across a social setting (Guba and Lincoln, 1994; LeCompte and Goetz, 1982; Lincoln and Guba, 1985; Lincoln and Guba, 1986). Lecompte and Goetz (1982) argue that, unlike internal validity, external validity presents a problem in qualitative research because of the tendency to employ small samples. In this study, the sample for the qualitaive research represented a diverse range of stakeholders in the social setting. A sample of 13 participants still presents an external validity problem (Cook, 2008). However, this problem is addressed through the quantitative study which had a large sample for the survey (878). Therefore, the current study achieves internal validity through qualitative research and external validity through quantitative research.

7.2.1 Qualitative Study: Sample, Data Collection and Demographic Profile

After designing the semi-structured interview questionnaire based on the literature review and the conceptual model, the instrument was piloted with research active experts for content validity. The questionnaire was revised based on comments from these specialists. This was necessary to ensure that the questions were clear and appropriate to address the research objectives. The interviews were conducted from February 2013 to April 2013. A non-probability purposive sample of 13 participants ensured a mix representing the key stakeholder groups. The

profiles of interview participants are shown in Table 7.1b and explained in the subsequent paragraphs.

Table 7.1b - Profiles of Interview Participants

Age	Gender	Participant	Affiliation/ Organisation	Qualifications/ Degree enrolled
26	Female	Student	Private University A	BA Business Administration
34	Male	Student	Public University B	BCom Entrepreneurship
33	Female	Student	Public University B	BCom Entrepreneurship
24	Male	Student	Public University C	BA Business Administration
25	Male	Student	Public University C	BA Business Administration
22	Female	Student	Public University C	Bsc Agro Forestry
32	Male	Student	Public University C	BSc Wood Science and Technology
50	Male	Lecturer	Private University A	BA and MBA
37	Male	Lecturer	Public University B	Bsc and MBA
58	Male	Senior Lecturer	Public university C	BA, MBA, PhD
32	Female	Practitioner - Regional Manager	Public Support Institution D	BSc and MBA
46	Male	Practitioner - Director	Public Support Institution E	MA/MBA
40	Female	Practitioner - Regional Manager	Non-Profit Support Institution F	BBA, Dip. Acc

Profiles of Practitioners

Three practitioners from entrepreneurship support institutions were interviewed. At the time, there were three major public institutions supporting and facilitating entrepreneurial activities in Zambia. Representatives from two of these institutions participated in the interviews. **Institution D** was a public institution established to: a) provide low interest finance to small and medium-sized enterprises (SMEs); and b) promote initiatives such as skills development, preferential procurement, joint ventures between Zambians and foreign investors. The manager interviewed had worked in the institution for over 7 years**. Institution E** was also a public institution and offered a range of services to promote SMEs. Its services included linking nascent entrepreneurs to key institutions that would facilitate their start-up processes, access to finance, SME support incentives and market linkages. The manager interviewed had worked in this sector for over 15 years. **Institution F** was a non-profit entity providing enterprise support based on funding from international donor agencies. The support normally targeted specific sectors and vulnerable groups such as youths and fledgling cooperatives in rural areas. The entity had been operational for 15 years and the manager interviewed had worked in the sector for over 5 years.

Profiles of Entrepreneurship Educators

University A was a private university with 10 years of existence. At the time of interviews, it had been offering entrepreneurship modules to its final year business degree students for more than 3 years. The lecturer interviewed had been involved in EE since the beginning. **University B** was a public university with 8 years' history. It had been providing EE for more than 4 years. The university offered two introductory modules, one in each of the two semesters to all its first year students. During the final two years of study, the university also offered entrepreneurship modules as electives for business and agriculture students. Furthermore, this university offered a bachelor's degree in entrepreneurship and the first cohort graduated in 2013. The lecturer interviewed had been involved in EE since inception. **University C** was a public university which had 25 years' history. This university offered EE as electives or compulsory modules to final year students registered for degrees in business and agriculture. The lecturer interviewed had been involved in EE for at least 10 years. For all the three universities represented, EE delivery involved lectures, practical assignments and projects as well as events facilitating interaction with entrepreneurs and enterprise support institutions. Only university B offered EE related internships.

Qualitative Data collection and Analyses Procedure

At the start of each interview, the objectives of the study were stated; confidentiality and ethical issues were explained and cleared. The interview conversations were recorded with the permission from interviewees. After transcribing the interviews, each participant was asked to read through her or his transcript to confirm the accuracy. Once respondent validation was obtained, Nvivo was used to analyse the data. The coding approach in analysing the data

was based on two considerations: i) the themes identified in the literature review based conceptual model; and, ii) new themes suggested by the interview data.

7.2.2 Quantitative Study: Sample, Data Collection and Demographic Profile

Based on the literature, and in some cases with consent from the authors, some constructs for the survey were adopted from previous studies. After designing the structured survey questionnaire, the instrument was piloted with research active experts for content validity. Thus, the questionnaire was revised based on comments from these specialists. This was necessary to ensure that the questions were clear and appropriate to address the research objectives. The survey was undertaken from February 2013 to April 2013 towards the end of the academic year for the universities concerned. The questionnaire was administered during lectures in classrooms. Classroom completion of questionnaires is a practical approach often used by many researchers relying on student samples in the EI studies (Andrew C., 2007; Autio et al., 2001; Prieto et al., 2010; Wu and Wu, 2008). In addition, this approach has often been used in EE research (Packham et al., 2010; Oosterbeek et al., 2010; Iakovleva et al., 2011). From the extant literature, the approach normally generates a high response rate of more than 60%.

Actual Data Collection and Demographics of the Sample

To gain access to final year undergraduate students in Zambia, contacts were made with the Vice Chancellors' offices (see Appendix 7.3). Since the number of final year students participating in EE was only 500, the primary focus of data collection was to distribute the questionnaires to all the 500 EE participants. Then the next thing was to administer the questionnaire to students not participating in EE for purposes of comparative analyses.

With the help of officials coordinating class timetables, final year classes (lessons) were identified. The questionnaire was disseminated to the respondents in their classes i.e. every student attending class received a questionnaire. The respondents were required to complete the questionnaires and return them to the researcher upon completion without discussing with classmates. This approach minimised not only the likelihood of answering to please the researcher but also the pressure to answer in a manner that is socially desirable (Dillman, 2000; Saunders et al., 2009). In addition, for those final year students not participating in EE, all accessible classes with more than one discipline such as marketing, computer science, agriculture, social work, law, electrical and mechanical engineering were included. Including all available students made the sample a better representation of the population. With this approach, the actual sample generated was 878; 426 EE non-participants and 452 EE participants i.e. 90.4% of EE participants were included. Table 7.2 provides the comprehensive profile of the sample.

Table 7.2 - Profile of the Sample of Final Year University Students

PROFILE ELEMENT		Entrepreneurship Education Participants		Non-Participants		All Respondents (N=878)	
		n	(%)	n	(%)	n	(%)
Gender	Female	205	**45.4**	184	**43.2**	389	**44.3**
	Male	247	**54.6**	242	**56.8**	489	**55.7**
Age	25 years and below	276	**65.2**	295	**71.8**	571	**68.5**
	26-30 years	70	**16.5**	69	**16.8**	139	**16.7**
	31-35 years	27	**6.4**	15	**3.6**	42	**5.0**
	36 years and above	50	**11.8**	32	**7.8**	82	**9.8**
University Type	Private	201	**46.5**	178	**43.0**	379	**44.7**
	Public	231	**53.5**	236	**57.0**	467	**55.2**
Field of Study	Non Business degree	191	**44.4**	220	**55.3**	411	**46.8**
	Business degree	239	**55.6**	193	**46.7**	432	**49.2**
Discipline	Business	239	**55.6**	193	**46.7**	432	**51.2**
	Engineering, Applied Sciences, ICT & Built Environment	24	**5.6**	134	**32.4**	158	**18.2**
	Natural Resources and Agriculture	90	**20.9**	10	**2.4**	100	**11.9**
	Social Sciences	77	**17.9**	76	**18.4**	153	**18.1**
Employment Experience	None	278	**65.6**	314	**77.0**	592	**71.2**
	below 2 years	85	**20.0**	59	**14.5**	144	**17.3**
	2- 6 years	45	**10.6**	27	**6.6**	72	**8.7**
	6- 10 years	11	**2.6**	6	**1.5**	17	**2.0**
	above 10 years	5	**1.2**	2	**0.5**	7	**0.8**
Entrepreneurial Role Model							
Parent/family	NO	197	**44.0**	216	**53.0**	393	**47.0**
	YES	235	**56.0**	188	**47.0**	443	**53.0**

Table 7.2 reports the distribution of the sample by type of university; 44.7% private and 55.2% public. The actual student proportions in the population with respect to type of university were 40.0% private and 60.0% public (SARUA, 2012). A chi-square goodness-of-fit test indicated that there was no significant difference between the sample (55.2%) and population (60.0%) proportions i.e. $\chi 2(1, n=878) =1.125$, $p<0.079$. This distribution would allow for findings to be generalised to private and public universities.

As indicated in Table 7.2, 44.3% of the respondents were female while 55.7% were male. This pattern of females being fewer than the males was also reflected in the population of university students with 39% females and 61% males (SARUA, 2012). A chi-square goodness-of-fit test indicated that there was no significant difference between the sample (55.7%) and population (61%)

proportion for males i.e. $\chi 2(1, n=876) = 1.086$, $p < 0.099$. This distribution allowed for generalisability of the findings and meaningful comparison between genders.

With regard to age, 85.2% of the respondents were 30 years old and below. The Table 7.3 reports that the T-test statistic comparing means of the sample (25.90) and the population of university students (26.0) revealed no significant difference i.e. p=0.636 (Ministry of Education, 2013; SARUA, 2012). This means that the sample profile matched the population in relation to age, thus, allowing for generalisability of findings.

Table 7.3 - One-Sample T-test for Age Comparison with Student Population

	Test Value = 26					
	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Age	-.473	863	.636	-.101	-.52	.32

With regard to field of study, while 49.2% of respondents were enrolled in business related degrees, 46.8% were pursuing non-business degrees. The latter were 18.7% in engineering, applied sciences, information and communications technology or the built environment; 11.9% in natural resources and agriculture-related degrees; and, 18.1% were in other social sciences. This distribution was important because the findings would be meaningful across different disciplines.

Extant literature indicates that prior entrepreneurial exposure has an effect on EI (Krueger, 1993). In addition, it has been found to influence the relationship between EE and EI (Fayolle et al., 2006b; Fayolle, 2007; Fayolle and Gailly, 2009; Soriano, 2009). In this sample, 53% of respondents had either a parent or family member who had started and run a business before. This proportion seemed to be typical in developing countries in Africa because in a study in Namibia, the

proportion was 50% (Haase et al., 2011). For developing countries, this may be typical due to low job prospects which may compel some individuals to consider necessity entrepreneurship (Kelley et al., 2011). Lastly, the majority of respondents (88.5%) either had no employment experience at all (71.2%) or had a few months of internship (17.3%). This is the typical experience of an undergraduate student in Zambia.

In assessing the effect of EE on EI, the majority of prior studies have been criticised for not including a comparison group (Rideout and Gray, 2013). Therefore, scholars call for studies that compare participants and non-participants in EE (Oosterbeek et al., 2010; Souitaris et al., 2007). This sample achieved this balance since 49% (426/878) of the respondents did not participate in any EE compared to 51% (452/878) who did. In addition, when EE participants are compared to non-participants, a chi-square test for independence indicated no statistically significant difference in proportions of public and private universities in the two groups, $\chi 2(1, n=846) = 0.929$, $p<0.335$. Further, a chi-square test for independence indicated no statistically significant difference in proportions of females and males in the two groups, $\chi 2(1, n= 849) = 1.067$, $p<0.302$. A T-test executed to compare the mean age for EE participants (26.0 years) and non-participants (25.8 years) indicates a statistically insignificant difference, $t=1.365$, $df=862$, $p=0.173$. The statistically insignificant differences in age, gender and type of university between EE participants and non-participants imply that the two groups have similar demographic profiles. The only major difference is the participation in EE.

7.3 Measurements and Scales – Quantitative Study

Items comprising the constructs for the quantitative study were believed to have content validity based on three reasons. Firstly, construct items were adopted or adapted from prior studies such as Busenitz et al. (2000), Liñán et al. (2011), Krueger (1993), Souitaris et al. (2007), De Clercq et al. (2011), and Carter et al. (2003). Secondly, the construct items were further filtered through extensive discussions with researchers in the field and where necessary rephrased. Finally, following survey data collection, the constructs were further assessed for validity through principal component analyses using SPSS (Saunders et al., 2009). There are two major advantages for adopting measures from prior studies. Firstly, the questions have already been tested for reliability and validity. Secondly, findings in subsequent research employing the same constructs can be compared to prior studies (Gartner, 1989a; Thompson, 2009).

Perspectives on Measurement of EI and its Determinants

To begin with, EI is a self-acknowledged claim by a person that he/she intends to set up a new business venture and plans to do so. This is a conscious state of mind that precedes action (Ajzen, 2002; Shapero and Sokol, 1982; Thompson, 2009). In addition, all the factors influencing EI are expected to do so through their effects on perceived feasibility and desirability of entrepreneurship (Davidsson, 2004; Hindle et al., 2009). The current study used perceptual measures in line with the proposition that perceptions of the environment can be stronger predictors of entrepreneurial actions than actual facts (Zahra, 1993; Zahra and Covin, 1995). This also resonates with the proposition that individuals with high EI, based on perceived feasibility and desirability, are more likely to start a venture than those with low or no EI (Henley, 2007; Kautonen et al., 2013).

Furthermore, scale measures were used because the degree of EI might vary from person to person. Perhaps, it might even vary for the same person at different points of time depending on circumstances (Thompson 2009; Ajzen, 2011). Whether or not someone has EI is not simply a yes or no question. Instead, it is a matter of intention to start a business varying from very low to very high. While Krueger et al. (2000) use a 1-item measure, "estimate the probability that you'll start your own business in the next 5 years" (p. 421), they acknowledge the problems of reliability and validity of their single-item measure. For this reason, they suggest that, to improve the design of entrepreneurship research, it might be "valuable if future studies would employ multiple-item measures of key constructs to reduce measurement error" (p.425).

Based on the foregoing considerations, multi-item Likert scales were adopted for the dependent variable EI, its attitudinal antecedents, and the individual and institutional factors. Tables 7.4 to 7.7 report the measures adopted/adapted. Each of the scales comprised a set of items depicting the construct from different angles. For each item, a 5-point Likert scale was used (1 being strongly disagree and 5 being strongly agree) to enable respondents to indicate the extent to which they agree to these items. For prior entrepreneurial exposure, the current study followed the practice in prior research by using a combination of 5-point Likert items and dichotomous items. In summary, the items used in the survey questionnaire were meant to measure the following:

Dependent Variables (Table 7.4)

- Entrepreneurial intention;
- Perception of feasibility of entrepreneurship; and
- Perception of desirability of entrepreneurship.

Independent Variables –Institutional Factors (Table 7.5)

- Regulatory institution;
- Normative institution; and
- Cognitive institution.

Independent Variables – Individual Factors (Table 7.6)

- Risk taking propensity;
- Locus of control ;
- Need for achievement; and
- Prior entrepreneurial exposure.

Intervening Variables – Effectiveness of Entrepreneurship Education (Table 7.7)

- Perceived learning (mastery of entrepreneurship skills and knowledge) from EE;
- Perceived involvement with practical approaches during EE (experiential learning); and
- Perceived access and interaction with relevant resources during EE.

Control Variables

- Gender (male/female);
- University type (private or public);
- Age (actual); and
- Field of study (business/non-business).

Table 7.4 - Items on EI and its Attitudinal Antecedents

Desirability Liñán et al., 2011
Being an entrepreneur would entail great satisfaction for me (D1)
Among various options, I would rather be an entrepreneur (D2)
A career as an entrepreneur is attractive for me (D3)
If I had the opportunities and resources, I would like to start a firm (D4)
Being an entrepreneur implies more advantages than disadvantages to me (D5)
Feasibility Liñán et al., 2011
I can control the creation process of a new firm (F1)
I know the necessary practical details to start a firm (F2)
To start a firm and keep it working would be easy for me (F3)
I am prepared to start a viable firm (F4)
I know how to develop an entrepreneurial project (F5)
If I tried to start a firm, I would have a high probability of succeeding (F6)
Entrepreneurial Intention Kolvereid, 1996; Souitaris et al., 2007; Liñán et al., 2011
I am likely to pursue a career as an entrepreneur? (EI1)
I would prefer to be an entrepreneur (self-employed) as opposed to organisational employment (EI2)
I am attracted to a career as an entrepreneur (self-employed) (EI3)

Table 7.5 - Items on Institutional Factors

Regulatory Institution Busenitz et al., 2000; De Clercq et al., 2011; Martinez et al., 2010
The government sponsors organisations that help new businesses to develop (REG1)
Even after failing in an earlier business, entrepreneurs are assisted by
the government in start-ups (REG2)
Local and central governments have special support available for individuals who
want to start a new business (REG3)
The government sets aside contracts for new small businesses (REG4)
Government organisations in this country assist individuals starting their own businesses (REG5)
In my country there is sufficient financial support available for new start-ups (REG6)
In my country universities/learning institutions provide advisory and development
support for new businesses (REG7)
In my country there are sufficient government subsidies available for new firms (REG8)
In my country state laws, rules and regulations are adverse to starting and running a business (REG9) ®
Normative Institution Busenitz et al., 2000
Entrepreneurs are admired in this country (NORM1)
People in this country tend to greatly admire those who start their own businesses (NORM2)
In this country, innovative and creative thinking is viewed as the route to success (NORM3)
Turning new ideas into businesses is an admired career path in this country (NORM4)

Cognitive Institution	Busenitz et al., 2000
In my country most people know where to find information about markets for their products (COG1)	
In my country those who intend to start new businesses know how to manage risk (COG2)	
In my country individuals know how to legally register and protect a new business (COG3)	

® Reverse coded

Table 7.6 - Items on Individual Factors

Need for Achievement	Walter et al., 2011; Luethje and Franke, 2004
Hard work is always something I engage myself to (NAch1)	
I frequently think about ways I could earn a lot of money (NAch2)	
I believe I would enjoy having authority over other people (NAch3)	
I find satisfaction in exceeding my previous performance even if I do not outperform others (NAch4)	
I would like an important job where people look up to me (NAch5)	
I care about performing better than others on a task (NAch6)	
I would rather do tasks which appear challenging and difficult than the ones in which	
I feel confident and relaxed (NAch7)	
Locus of Control Lüthje and Franke, 2003; Chen et al.,1998; Mueller and Thomas, 2001	
When I get what I want, it is usually because I am lucky (LC1) ®	
When I make plans I am almost certain I can make them work (LC2)	
Every time I try to get ahead something or somebody stops me (LC3) ®	
When I get what I want it is usually because I worked hard for it (LC4)	
I have enough control over the direction of my life (LC5)	
Whether or not I am successful in life depends mostly on my ability (LC6)	
Risk Taking Propensity	Zhao et al., 2005; Lüthje and Franke, 2003
I like trying new things (RTP1)	
I am willing to take significant risk if the possible rewards are high enough (RTP2)	
When I am about to do something, I really dislike the idea that I do not know	
what is going to happen (RTP3) ®	
I have taken a risk in the last six months (RTP4)	
I enjoy the excitement of uncertainty and risk (RTP5)	
When I travel I tend to use new routes (RTP6)	
Prior Entrepreneurial Exposure	Krueger, 1993; Liñán et al., 2011; BarNir et al., 2011
Has your parent started and run a business before? (Yes/No)	
To what extent would you consider that parent to be a good entrepreneur? (Scale)	
Has a family member(s) other than a parent started and run a business before? (Yes/No)	
To what extent would you consider the family member (s) to be (a) good entrepreneur (s)? (Scale)	
Have you ever worked in family business before? (Yes/No)	
Have you started and run a business before? (Yes/No)	
Have you ever worked for a small or new business? (Yes/No) – checked against staff numbers.	

® Reverse coded

Table 7.7 - Items on Effectiveness of EE

Perceived Learning and Skills acquired Fayolle et al.,2006**;** Souitaris et al., 2007; Johannisson, 1991
Increase your understanding of the actions someone has to take in order to start a business (i.e. what needs to be done?) (PLS1)
Increase your understanding of the attitudes, values and motivation of entrepreneurs (i.e. why do entrepreneurs act?) (PLS2)
Enhance your practical management skills in order to start a business (i.e. how do you start the venture?) (PLS3)
Enhance your ability to identify an opportunity (i.e. when do you need to act?) (PLS4)
Enhance your ability to develop networks (i.e. who do you need to know)? (PLS5)
Interaction and Access to Resources Souitaris et al., 2007
Seed funding from the university (IAR1)
Advice from technology transfer office or business development office (IAR2)
Advice from faculty or lecturers/ business development services (IAR2)
Advice from classmates (IAR4)
A pool of university technology (IAR5)
A pool of entrepreneurial minded classmates for building a team (IAR6)
Research resources (e.g. to assess feasibility) (IAR7)
Networking events (IAR8)
Physical space for meetings (IAR9)
Business plan competitions (testing ground for the idea) (IAR10)
Referrals to investors and other funding organisations (IAR11)
Practical Involvement in Entrepreneurship (Experiential learning) Neck and Greene, 2011; Herrero and van Dorp, 2012; McMullan and Boberg,1991
Identifying opportunities or generating business ideas (PI1)
Developing, presenting and defending a business model (PI2)
Hands on projects or assignments undertaken (PI3)
Developing, presenting and defending a business plan (PI4)
Work placement or internship with a small or medium-sized business (PI5)
Work placement or internship with large firm (PI6)
Actual venture creation or start up business (PI7)
Business simulation games/projects (PI8)

7.4 Construct Validity Analyses Results- Quantitative Study

To further assess internal validity, factor analyses were conducted to evaluate construct validity i.e. assess the extent to which items in a scale measure the same construct theme (Saunders et al., 2009). The procedures were based on guidelines in the extant literature (Hair et al., 2006; Burns and Burns, 2008; Pallant, 2010). After recoding the reversed items, principal component analyses

(PCA) were executed to obtain an empirical summary of the data set (Pallant, 2010). Since both the orthogonal (Varimax) and oblique (Oblimin) factor rotation methods yielded the same results, only Varimax results are reported (Busenitz et al., 2000).

7.4.1. Construct Validity for Attitudinal Antecedents of EI

Prior to PCA, the suitability of the data and sample for factor analysis was assessed. Bartlett's Test of Sphericity (sig=0.000, df=78) was significant, indicating that sufficient correlations existed among the variables (Burns and Burns, 2008). The Kaizer-Meyer-Olkin (KMO) value of 0.881 exceeded the minimum recommended value of 0.50 (Kaiser 1970, 1974; Hair et. al., 2006, p.115). This meant that the sample was adequate. Lastly, the data set had a very high respondent to variable ratio. Meeting these criteria supported the factorability of the correlation matrix (Hair et al., 2006, p.128; Pallant, 2010).

PCA revealed a 2 component solution with cumulative total variance explained of 59.390%. Table 7.8 shows the variance explained per factor i.e. factor 1, 43.855%; and, factor 2, 15.535%. An inspection of the scree plot (Cattel, 1966) revealed a clear break after the second factor. Furthermore, the Varimax rotated solution revealed a simple and clear structure (Thurstone, 1947). This was supported by both factors showing a number of high loadings and all variables loading substantially on only one factor, thus, proving unidimentionality of items (Hair et. al., 2006, p.136). Items were retained in a factor if they had a loading at or above 0.40 on that factor, and the differences between one loading and other cross-loadings were more than 0.30 (Burns and Burns, 2008; Howell et al., 2005; Wang and Ahmed, 2009). Interpretation of the 2 factors was consistent with prior research (Douglas and Shepherd, 2002; Fitzsimmons and Douglas, 2011; Liñán, 2008; Liñán, 2008; Liñán and Chen, 2009; Liñán et al., 2011a; Souitaris et al.,

2007) that perceptions of desirability and feasibility are separate constructs for assessing attitudinal antecedents of EI.

Table 7.8 - Item and Cross-Loadings for Attitudinal Antecedents of EI

	Factor 1	Factor 2
Retained Items		
D1	**0.843**	0.165
D2	**0.794**	0.147
D3	**0.786**	0.187
D4	**0.755**	0.150
D5	**0.628**	0.241
F1	0.185	**0.790**
F2	0.125	**0.738**
F3	0.037	**0.697**
F4	0.306	**0.679**
F6	0.206	**0.589**
Dropped Item		
F5	-0.019	0.268
Eigen Value	4.385	1.554
Percent of Variance	43.855	15.535

Note: Desirability=items D1 to D5, Feasibility=items F1 to F6

7.4.2 Construct Validity for Institutional Factors

Prior to PCA, all the necessary conditions for sample and data suitability were assessed: correlation matrix with coefficients of 0.30 and above, significant Bartlett's Test of Sphericity (sig=0.000, df=78), and KMO value of 0.814. All supported sampling adequacy. PCA revealed a 3 component solution with cumulative total variance explained of 59.239%. Based on Cattel's scree plot and Varimax rotated solution, the 3-factor structure was clear. Interpretation of the three factors was consistent with prior research (Almobaireek and Manolova, 2012; Busenitz et al., 2000; Manolova et al., 2008; Spencer and Gomez, 2004) that cognitive, normative and regulatory institutions be regarded as separate constructs for assessing country institutional profile for entrepreneurship (Table 7.9).

Table 7.9 - Item and Cross-Loadings for Institutional Factors

	Factor 1	Factor 2	Factor 3
Retained Items			
REG1	**0.763**	0.112	0.085
REG2	**0.753**	-0.022	0.079
REG3	**0.746**	0.135	0.089
REG4	**0.726**	0.005	0.129
REG5	**0.687**	0.118	0.083
NORM1	0.011	**0.820**	0.038
NORM2	0.036	**0.807**	0.033
NORM3	0.172	**0.754**	0.193
NORM4	0.105	**0.722**	0.146
COG1	0.185	0.097	**0.814**
COG2	0.186	0.088	**0.813**
COG3	0.099	0.166	**0.775**
Dropped Items			
REG6	0.532	0.060	0.432
REG7	0.307	0.207	0.343
REG8	0.572	0.010	0.435
REG9	-0.320	-0.018	-0.246
Eigen Value	4.065	2.160	1.476
Percent of Variance	31.266	16.616	11.358

Note: Regulatory Dimension=REG1 to REG9, Normative Dimension= NORM1 to NORM 4, Cognitive Dimension=COG1 to COG3

7.4.3 Construct Validity for Individual Factors

Prior to PCA, the suitability of data and sample for factor analysis was assessed; correlation matrix with coefficients of 0.30 and above, significant (sig=0.000, df=78) Bartlett's Test of Sphericity (Bartlett, 1954), and KMO value of 0.853, all supported sampling adequacy. PCA revealed a three component solution with cumulative total variance explained of 51.833%. Based on Cattel's scree test (Cattell, 1966) and Varimax rotated solution, a simple and clear structure of 3 factors emerged (Burns and Burns, 2008; Kaiser, 1970; Kaiser and Rice, 1974; Thurstone, 1947). Interpretation of the three factors was consistent with prior research (Gomez-Mejia and Balkin, 1989; Lüthje and Franke, 2003; Meertens and Lion, 2008; Mueller and Thomas, 2001; Walter et al., 2011; Zhao et al., 2005) that need for achievement, locus of control and risk taking propensity be regarded as separate constructs for assessing individual characteristics' influence on EI (Table 7. 10).

Table 7.10 - Item and Cross-Loadings for Individual Factors

	Factor 1	Factor 2	Factor 3
Retained Items			
NAch2	**0.769**	0.312	0.151
NAch3	**0.809**	0.108	0.097
NAch6	**0.755**	0.238	-0.022
NAch4	**0.708**	0.116	0.145
LC2	0.188	**0.648**	0.183
LC4	0.246	**0.728**	0.061
LC6	0.139	**0.713**	0.065
LC5	0.099	**0.656**	0.04
RTP1	0.174	0.209	**0.525**
RTP2	0.168	0.111	**0.483**
RTP4	0.044	0.093	**0.589**
RTP5	-0.006	-0.019	**0.764**
RTP6	0.062	0.002	**0.636**
Dropped Items			
NAch1	0.413	0.702	0.096
NAch5	0.442	0.506	0.053
NAch7	0.385	0.609	0.180
LC1	0.244	0.474	0.031
LC3	0.255	0.498	-0.131
RTP3	0.448	0.119	0.211
Eigen Value	3.944	1.587	1.208
Percent of Variance	30.338	12.204	9.291

NB: Need for Achievement=NAch1 to NAch7, Locus of Control=LC1 to LC6, Risk Taking propensity = RTP1 to RTP 6

7.4.4 Construct Validity for Effectiveness of EE

Prior to PCA, the suitability of the data and sample for factor analysis was assessed: correlation matrix with coefficients of 0.30 and above, significant Bartlett's Test of Sphericity (sig=0.000, df=91), and KMO value of 0.883 indicated that sampling was adequate. PCA revealed a three component solution with cumulative total variance explained of 62.087%. Based on Cattel's scree test and Varimax rotated solution, three factors emerged. The interpretation of the factors was consistent with prior research (Herrero and Van Dorp, 2012; Johannisson, 1991; Johannisson et al., 1998; McMullan and Boberg, 1991; Souitaris et al., 2007) that perceived learning and access to resources be considered as separate constructs for assessing participants' perception of effectiveness of EE. The practical approaches (experiential learning) construct was being generated and validated for the first time (Table 7.11).

Table 7.11 - Item and Cross-Loadings for Effectiveness of EE

	Factor 1	Factor 2	Factor 3
Retained Items			
PLS1	**0.856**	0.139	0.050
PLS2	**0.801**	0.168	0.058
PLS3	**0.764**	0.207	0.196
PLS4	**0.754**	0.129	0.214
PLS5	**0.715**	0.129	0.301
IAR3	0.268	**0.730**	0.074
IAR4	0.139	**0.729**	0.110
IAR5	0.048	**0.693**	0.360
IAR6	0.284	**0.668**	0.185
IAR7	0.136	**0.615**	0.193
IAR8	-0.001	**0.586**	0.202
PI5	0.150	0.187	**0.828**
PI6	0.140	0.192	**0.799**
PI7	0.188	0.268	**0.696**
PI8	0.267	0.233	**0.566**
Dropped Items			
IAR1	-0.169	0.512	0.273
IAR2	0.114	0.569	0.468
IAR9	0.088	0.525	0.543
IAR10	0.006	0.641	0.361
IAR11	-0.147	0.665	0.337
PI1	0.555	0.327	0.098
PI2	0.588	0.506	0.129
PI3	0.536	0.239	0.24
PI4	0.492	0.533	0.140
Eigen Value	5.602	1.853	1.238
Percent of Variance	40.014	13.234	8.839

Note: Perceived Learning and Skills from EE =PLS1 to PLS5; Interaction with and Access to Resources=IAR1 to IAR11; Practical Approaches/Involvement (Experiential Learning) = PI1 to PI8

7.5 Measurement Reliability Analyses Results-Quantitative Study

Reliability refers to consistency and stability of measures that allow for replication of research (Burns and Burns, 2008; Davis, 1964; Peterson, 1994; Tabachnick and Fidell, 2012). It is an assessment of the degree of consistency between multiple measurements of a variable (Hair et al., 2006, p.137). A widely used measure of reliability is internal consistency. It assesses the consistency among variables (items) in a construct. Its rationale is that the individual items or indicators of the scale should all be measuring the same construct and, thus, be highly inter-correlated (Nunnally and Bernstein, 1978). The most widely used indicator of internal consistency is Cronbach's alpha coefficient (i.e. reliability coefficient). It assesses the consistency of the entire scale (Cronbach, 1951; Hair et al., 2006; Nunnally and Bernstein, 1978; Peter, 1979). Caution must be exercised because the higher the number of items in a scale, the larger the

reliability coefficient. The generally preferred Cronbach's alpha value is 0.70 (Andrews et al., 1991; Cronbach, 1951; DeVellis, 2003; Pallant, 2010). Since reliability of a scale can vary depending on the sample, it is necessary to check that each of the scales used is reliable. It is also necessary to 'reverse' any negatively worded items before reliability analyses (Pallant, 2010; Burns and Burns, 2008). In the current study, all the internal reliability tests yielded coefficients above the minimum acceptable value of 0.60 (Brace et al., 2009).

7.5.1 Reliability Analyses for Desirability, Feasibility and EI

Table 7.12 reports the results of reliability analyses. The reliability coefficients for feasibility and desirability were markedly above the higher threshold of 0.70 (Fitzsimmons and Douglas, 2011; Liñán and Chen, 2009; Liñán et al., 2011a). In addition, the reliability coefficient for EI was slightly above the higher threshold of 0.70 (Iakovleva et al., 2011; Kolvereid, 1996a; Pallant, 2010; Souitaris et al., 2007; Tkachev and Kolvereid, 1999). Nevertheless, all the alpha values were above the threshold of 0.70 (Nunnally and Bernstein, 1978; Brace et al., 2009).

Table 7.12 - Reliability Analyses of Attitudinal Antecedents and EI

Item Number	Corrected Item-Total Correlation	α if Item Deleted
Desirability (α=0.85)		
D1	0.755	0.801
D2	0.685	0.819
D3	0.690	0.817
D4	0.662	0.827
D5	0.565	0.852
Feasibility (α=0.79)		
F1	0.649	0.716
F2	0.554	0.748
F3	0.497	0.766
F4	0.578	0.739
F6	0.535	0.754
Entrepreneurial Intention (α=0.734)		
EI1	0.497	0.701
EI2	0.550	0.469
EI3	0.542	0.506

7.5.2 Reliability Analyses for Institutional Factors

Table 7.13 shows the results of reliability analyses. Clearly, all the reliability coefficients for regulatory, cognitive and normative institutions were above the threshold of 0.70 (Busenitz et al., 2000; Manolova et al., 2008; Nunnally amd Bernstein, 1978).

Table 7.13 - Reliability Analyses for Institutional Factors

Item Number	Corrected Item-Total Correlation	α if Item Deleted
Regulatory Dimension (α=0.81)		
REG1	0.630	0.766
REG2	0.609	0.772
REG 3	0.614	0.770
REG4	0.585	0.777
REG5	0.556	0.783
Normative Dimension (α=0.80)		
NORM1	0.624	0.735
NORM2	0.608	0.743
NORM3	0.627	0.732
NORM4	0.568	0.765
Cognitive Dimension (α=0.77)		
COG2	0.618	0.675
COG1	0.628	0.656
COG3	0.565	0.734

7.5.3 Reliability Analyses for Individual Factors

Table 7.14 reports the results of reliability analyses. Firstly, the need for achievement scale's coefficient of 0.80 was above the threshold of 0.70 (Ahmad, 2010; Ahmed, 1985; Cassidy and Lynn, 1989; Kristiansen and Indarti, 2004; Nunnally and Bernstein, 1978; Steers and Braunstein, 1976; Walter et al., 2011). Secondly, the coefficient of 0.70 for the locus of control scale was also at the recommended higher threshold (Kristiansen and Indarti, 2004; Luethje and Franke, 2004; Lüthje and Franke, 2003; Mueller and Thomas, 2001). Thirdly, the risk taking propensity scale's coefficient of 0.62 was higher than the minimum acceptable threshold of 0.60 for social sciences research (Brace et al., 2009; Luethje and Franke, 2004; Meertens and Lion, 2008; Zhao et al., 2005).

Table 7.14 - Reliability Analyses for Individual Factors

Item Number		Corrected Item-Total Correlation	α if Item Deleted
Need for Achievement	(α=0.80)		
NAch2		0.690	0.714
NAch3		0.636	0.735
NAch4		0.527	0.786
NAch6		0.602	0.751
Locus of Control	(α=0.70)		
LC2		0.480	0.630
LC4		0.556	0.586
LC5		0.407	0.679
LC6		0.485	0.627
Risk Taking Propensity	(α=0.62)		
RTP1		0.352	0.563
RTP2		0.377	0.555
RTP4		0.333	0.580
RTP5		0.438	0.516
RTP6		0.346	0.566

7.5.4 Reliability Analyses for Effectiveness of EE

Table 7.15 reports the results of reliability analyses. Firstly, the scale for perceived learning had a coefficient of 0.87, exceeding the upper threshold of 0.70 (Souitaris et al., 2007). Secondly, the scale for perceived practical approaches (experiential learning) and the scale for perceived access and interaction with relevant resources both had reliability coefficients of 0.81. This alpha value also exceeded the upper threshold of 0.70 (Nunnally and Bernstein, 1978).

Table 7.15 - Reliability Analyses of Effectiveness of EE

Item Number	Corrected Item-Total Correlation	α if Item Deleted
Perceived Learning and Skills Acquisition (α=0.87)		
PLS1	0.737	0.833
PLS2	0.678	0.847
PLS3	0.712	0.838
PLS4	0.681	0.846
PLS5	0.672	0.849
Interaction and Access to Resources (α=0.81)		
IAR3	0.604	0.776
IAR4	0.571	0.784
IAR5	0.631	0.770
IAR6	0.593	0.779
IAR7	0.508	0.797
IAR8	0.533	0.792
Practical Involvement (α=0.81)		
PI5	0.704	0.715
PI6	0.655	0.740
PI7	0.611	0.763
PI8	0.521	0.801

7.6 Statistical Controls and Common Methods Bias –Quantitative Study

Statistical checks were conducted to ensure that the data met various requirements necessary to conduct further bivariate and multivariate analyses. Specifically, checks for missing data, outliers, normality and common method bias were conducted.

Missing Data and Outliers

A thorough check of the descriptive statistics revealed that missing data for the variables and respondents ranged between 0.1% and 4.1%. Missing data under 10% for each respondent or variable can generally be ignored because it does not have a significant effect on any analyses (Hair et al., 2006). Notwithstanding, in order not to limit the sample size, the case selection option used for statistical analyses was **Exclude Cases Pairwise** instead of **Exclude Cases Listwise** (Pallant, 2010)**.** With regard to outliers**,** inspection of boxplots and comparison of actual means with the 5% trimmed means for the variables and factors revealed no extreme scores with strong influence on the means. Thus, no significant influence of outliers was present (Pallant, 2010).

Tests of Normality

Most parametric multivariate techniques require that data is normally distributed to reduce the risk of results being biased and flawed (Hair et al., 2006). Violations of normality can have serious effects in small samples (less than 50 respondents), but the impact effectively diminishes when sample sizes reach 200 respondents and beyond (Hair et al., 2006, p. 86; Pallant, 2010). Thus, with a large survey sample in the current study, the impact of any violation of normality would be insignificant. Notwithstanding, tests checking violation of normality using Kolmogorov-Smirnov statistic were non-significant ($p>0.05$).

Common Methods Bias (CMB) Checks

CMB manifests when variance in the variables is partially attributable to the measurement method rather than to the constructs the measures represent (Podsakoff et al., 2003). Unlike random bias, systematic bias is a problem because it may be one of the sources of measurement error. This would threaten the validity of findings (Bagozzi and Yi, 1991; Bagozzi et al., 1991; Nunnally and Bernstein, 1978). Besides ensuring that some construct items were reverse-coded to mitigate the bias of acquiescence (Liñán et al., 2011a), Harman's one factor test, the most widely used technique, was conducted to statistically check for CMB (Carr and Sequeira, 2007; Podsakoff et al., 2003). All items from all constructs in the study were loaded into an exploratory factor analysis to determine whether the majority of the variance could be accounted for by one general factor. The rationale is that if a substantial amount of CMB is present, either (a) a single factor will emerge from the factor analysis or (b) one general factor will account for the majority of the covariance among the measures (Campbell and Fiske, 1959; Meade et al., 2007; Podsakoff et al., 2003). In this study, factor analysis of all items revealed a 12-factor solution (in line with the number of constructs in this research) with cumulative total variance of 60.403%. The first factor accounted for 16.686% of the variance. Therefore, CMB was not a problem in this research.

7.7 Conclusions

This chapter has discussed research design choices comprising philosophy, approach, strategies and data collection techniques and procedures. To avoid bias from utilising one particular methodology, this research purposely employed a concurrent triangulation strategy. The strategy was intended for model testing and in-depth understanding of the research problems from the Zambian context. The qualitative research was undertaken based on semi-structured interviews and the

quantitative research was based on a survey. It was believed that the triangulation research strategy would determine whether there is convergence or divergence of findings on the social phenomenon.

The chapter discusses the population, sampling procedures and demographic profiles for both the qualitative and quantitative research. The chapter also highlights the measurement imperatives with regard to validity and reliability. Finally, the chapter shows the statistical tests to develop constructs. The next chapter (chapter 8) presents and discusses results of the interviews. Thereafter, chapter 9 presents and discusses results of the survey.

CHAPTER 8: QUALITATIVE RESEARCH FINDINGS

8.0 Introduction

The preceding chapter discusses the research design and procedures for data collection and analyses. This chapter discusses the findings of the qualitative research which was undertaken to provide an in-depth understanding of the conceptual model. The chapter synthesises results of 13 semi-structured interviews in Zambia. Firstly, section 8.1 demonstrates the effects of individual and institutional factors on entrepreneurial intention (EI). Secondly, section 8.2 focuses on the intervening role of entrepreneurship education (EE) in the relationships between individual and institutional factors and EI. Thirdly, section 8.3 explains the implications of the evidence from the interviews on the conceptual model. Fourthly, section 8.4 draws the overall conclusion that indeed EE has an intervening role; specifically, it mediates the effects of individual and institutional factors on EI.

8.1 Findings on Individual and Institutional Factors Influencing EI

An in-depth discussion of the results derived from the 13 interviews is provided in subsection 8.1.1 for institutional factors and subsection 8.1.2 for individual factors.

8.1.1 Institutional Factors' Influence on EI

According to Busenitz et al.'s (2000) study on the effect of the entrepreneurial environment on entrepreneurial activity, the regulatory institution refers to laws, regulations, administrative and support mechanisms from government and other organisations that facilitate not only business start-ups but also activities of small and medium-sized enterprises (SMEs). Cognitive institution includes generally shared knowledge within society about how to start and manage a business.

Lastly, normative institution captures societal admiration of entrepreneurship and innovation.

8.1.1.1 Regulatory Institution's Influence on EI

Evidence from the interviews indicates that regulatory mechanisms to support business start-up are vital because they lead to perception that entrepreneurship is not only possible but also worthwhile. Below are quotes from the interviews:

> *"…for me, I think that support from government and other relevant institutions creates an environment conducive to entrepreneurship and, thus, stimulates entrepreneurship. Support also signals that business start-up is a good thing for individuals and, therefore, important for society. Support either by way of simplified laws, advisory services and access to affordable start-up finance promotes the status of entrepreneurship as an important endeavour. So support matters in the intention to start a business."* **Educator 2**

> *"…from experience, I can say that government and other institutions' support affects the intention to start a business in many ways but mainly by reducing barriers. Therefore, for would-be entrepreneurs, availability of support makes them begin to think that business start-up is achievable. I consistently noticed that there are individuals who started their businesses because assistance for start-ups became available from our institution. In other words, these individuals would not have started if support was not available."* **Practitioner 2**

The evidence indicates that a favourable policy may promote entrepreneurship to a high status in society. It also increases entrepreneurs' confidence by thinking that starting and growing a business is possible. Specifically, the 13 interviews outline four major benefits the support mechanism can offer. These benefits include: a) simplified regulations on business operations and lower business formalisation costs (12); b) access to markets (13); c) access to affordable (low cost) finance (13); and, d) advisory and training services as well as affordable relevant infrastructure and technology (13).

a) The evidence indicates that simplified regulations on business operations and lower costs for fulfilling legal requirements (formalisation costs) are conducive to entrepreneurship. Such an environment would lead to the perception that legal

requirements can be met. For instance, Student 1 explains that *"Simplifying rules/regulations for taxation, registration of businesses…would increase the number of people willing to start a business because they will perceive that it is less complicated and, therefore, easily achievable."* In addition, Educator 1 explains that *"Simplified laws would also be helpful ...most people complain about too many complicated rules that would-be entrepreneurs have to abide by at the time of firm formation and during operations."*

The foregoing perspectives are further clarified by Educators 1 and 3 as well as Student 2 who suggest that, in order to promote entrepreneurship, there is need to reduce business registration fees, business rates and rents for new businesses. Practitioner1 cites an example that one government enterprise support institution has collaborated with the Zambian tax authorities on a 3-year and 5-year tax holiday scheme for registered urban and rural start-ups, respectively. This allows start-ups that register with this facility to operate with no concern over corporate tax. Student 2 notes that some critical business formalisation services can only be accessed via provincial headquarters (regional centres). This creates a barrier against nascent entrepreneurs because of travel cost implications. Formalisation services include business registration/incorporation, registrations for tax, social security, property, holiday schemes and access to start-up incentives.

Table 8.1 shows selected comparative contextual details based on data from the World Bank's ranking of 189 economies in terms of overall ease of doing and starting business. Clearly, the data on Zambia shows that ease of starting a business improved during the year 2013 and was generally better than the average ranking of sub-Saharan Africa. Specifically, for ease of starting a business, the improvement in Zambia's rank from 70 (2013) to 45 (2014) was mainly due to the elimination of the requirement for actual paid-in minimum capital

at the time of starting up a business. It was also because the country raised the threshold for Value Added Tax registration from Zambian Kwacha 200,000 (i.e. US$36,000 per annum) to Zambian Kwacha 800,000 (i.e. US$150,000 per annum). However, many challenges for business start-up still remain. For example, the cost for registration of a new business is 26.8% of per capital income (2012 Zambia per capita income: US$1350) compared to the best performing economies in that category i.e. Slovenia (0%), New Zealand (0.3%) and South Africa (0.3%). Additionally, a business has to make tax payments 38 times annually, far more than the best performing economy i.e. 3 times in Hong Kong. Similarly, the 183 hours per annum spent on tax compliance issues for a business is higher than the best performing economy i.e. United Arab Emirates at 12 hours. In fact, as Educator 2 and Student 3 observe, to successfully complete each start-up registration procedure takes more than a week, contrary to the standard of 6.5 days reported globally for the whole process. Educator 2 explains that, in reality, more than 40 days are required to fully register a new retail business. Lastly, in relation to business registration procedures, despite the idea of a one-stop shop having been implemented in the capital city in 2009, it is yet to be decentralised to the rest of the country.

Table 8.1 - Comparative Ease of Starting and Doing Business in Zambia

	Country and Regional Comparison 2014*									
Rank/Indicator	Zambia	Angola	Botswana	Lesotho	Namibia	Rwanda	South Africa	Average Sub Sahara Africa Rank	Average OECD Rank	Global Best Performer
Ease of Starting a Business (Global country rank)	**45**	**178**	**96**	**89**	**132**	**9**	**64**	**124**	**60**	**NZ(1),**
Number of procedures to register a business	5	8	9	7	10	2	5	8	5	NZ (1)
Number of days to complete business registration	6.5	66.0	60.0	29.0	66.0	2.0	19.0	29.7	11.1	NZ (0.5)
Business registration cost (% of income per capita)	26.8	130.1	1.2	11.4	17.7	4.4	0.3	67.4	3.6	SI(0.0), NZ (0.3)
Minimum paid-in capital for business registration (% of income per capita)	0.0	21.8	0.0	0.0	0.0	0.0	0.0	125.7	10.4	**NZ (0.0)
Overall Ease of Doing Business (Global country rank)	**83**	**179**	**56**	**136**	**98**	**32**	**41**	**142**	**29**	**NZ(3), SG (1)**
Ease of Paying Taxes (Global country rank)	**68**	**155**	**47**	**101**	**114**	**22**	**24**	**126**	**55**	**UAE(1), NZ (23)**
Number of tax payments per year	38	30	34	33	37	17	7	38	12	HK(3), NZ(8)
Number of hours spent on tax compliance per year	183	282	152	324	314	113	200	314	175	UAE (12), NZ(152)

* World Bank Doing Business ranking for 189 countries for 2014

** 112 economies globally have 0.0% paid in capital requirement

Note: NZ - New Zealand, UAE-United Arab Emirates, HK-Hong China, SI-Slovena, SG-Singapore

Source: World Bank's www.doingbusiness.org accessed on 19 February 2014 16:00 hours, UK

b) The interviews indicate that policies, legislation and mechanisms facilitating access to markets for new businesses would encourage more people to start a business. For instance, Educator 2 explains that *"…If government sets aside contracts for SMEs, more individuals will be encouraged to start businesses because access to markets, especially at the beginning of a business, is always difficult. It is one of the determinants of success or failure."* To clarify this, Practitioner 2 cites a preferential procurement initiative by the Zambian government:

> *"We have realised that availability and access to markets for SMEs is key support that would influence start-up intention, and even SMEs' success… We think it can reduce barriers. As a result, among our institution's empowerment pillars for citizens' businesses, the government policy and legislation for preferential procurement initiative has prescribed that over the next five years a percentage of government expenditure on procurement of services and goods by various departments/institutions will be channelled toward SMEs that are owned or managed by citizens."* **Practitioner 2**

From the forgoing evidence, any government policy, legislation or mechanisms intending to facilitate access to markets is likely to be conducive to start-ups.

When these are available, more potential entrepreneurs will consider starting a business.

c) The interviews indicate that policies, legislation and mechanisms that facilitate access to affordable (low cost) finance not only promote the status of entrepreneurship in society but also reduce barriers. For instance, Student 4 explains that government initiatives to facilitate access to low-cost finance are signals that business creation is important. For potential entrepreneurs, this not only makes business start-up desirable but also realistic. Below is a quote:

> *"Even if an individual is able to identify an opportunity that he or she believes can be turned into a profitable business, and even if an individual is able to develop a business plan around such an idea, he or she will not be able to make it a reality if affordable start-up capital cannot be accessed. So for me this is a major support element that should be in place to promote entrepreneurship."* **Student 6**

The above perspective is further clarified by Practitioners 1 and 2. In their experience, low cost debt finance enabled and encouraged people who would never have considered starting a business to have a go. This view is consistent with prior research (Gaspar, 2009). In Zambia, 70% of new businesses depend on entrepreneurs' own savings or help from family/friends for start-up capital. Therefore, difficulties in accessing debt finance for start-up limits new venture creation (Bank of Zambia FinScope, 2010).

Prior studies have shown that capital requirements and availability of financial resources affect entrepreneurial propensity (Baumol et al., 2007; Ho and Wong, 2007; Van Stel et al., 2007). Indeed, low interest rates lead to an increase in new business start-ups (Audretsch and Acs, 1994; Highfield and Smiley, 1987). Furthermore, the three practitioners acknowledge that the current support may not be adequate to cater for many nascent entrepreneurs. This is because of government budgetary constraints. Students 1 and 5 indicate that while certain

level of financial support is available, access is not straight forward. The procedural requirements to access the debt finance are often complicated. Sometimes they not only depend on whom one knows within the institution or government but also whether one has collateral and a viable business plan. Only few people may be able to meet these conditions, let alone the youths who are at the beginning of their careers. Furthermore, the evidence indicates that financial, government and non-government institutions that provide debt finance for start-ups experience high default rates in loan repayment. Some of the experiences of practitioners on this issue are highlighted in the quotes below.

> *"Some people we have dealt with in this scheme as we follow them up for repayment clearly do not seem to have a proper understanding of the fundamentals of running a business. I begin to question even their motives…whether we have a moral hazard were some people did not have business intention but just wanted to access the money as a hand-out! I think we need to find a better way of distinguishing those who are serious and mean well from those who are not serious at the time of considering the loan application. Most people though are now realising that we are serious with repayment as some are facing litigation because of default while others have assets they pledged as collateral being repossessed. So I think that when we resume receiving applications, we are going to attract those who are serious because people now know the consequences of default… Currently, loan repayment default rates are too high."* **Practitioner 1**

> *"Our experience is that it does not matter whether financial support comes from government or third sector organisations; it does not matter whether we are dealing with youths or mature individuals or groups. As long as the entrepreneur is not using his/her own money, managing the process of repayment is a big challenge for the lender especially if there is no collateral. Unless the individual is really focused and disciplined to establish his or her business, collateral acts as a deterrent. For those that go to the bank to borrow and they are asked for collateral, they work hard to repay the facility. Even when the business has not done well, some still find a way of paying back."* **Practitioner 2**

Interviewees indicate that the importance of facilitating access to debt finance cannot be overemphasised. However, there is need for structured mechanisms to ensure that financial resources are not only allocated to the intended purposes but they are also given to capable individuals. This would mitigate wastage. Practitioner 2, Educator 3 and Student 3 suggest that only individuals meeting

certain conditions should have access to debt finance. For example, individuals who show personal initiative by starting businesses on their own and are ready to work under strict financial conditions should be considered.

d) Lastly, the evidence suggests that accessible sustained business advisory services and access to affordable infrastructure and technology would result in positive entrepreneurial outcomes. Educators 2 and 3 propose that mentoring services for nascent and fledgling entrepreneurs would help build capacity necessary for success. Such support would also assure potential entrepreneurs that there is help available on the entrepreneurial journey. This is clarified by Practitioner 3's experience that potential entrepreneurs who receive business advisory services are more likely to successfully start and manage a business. Recipients of such support develop in skills and become more confident in their abilities. Below are quotes from the interviews on the need for holistic support.

> *" …in my experience, financial support should go with entrepreneurship training and advisory services as a prerequisite so that those who apply for such financial support have capacity not only to start but also to operate and grow a business until they become reliable and serious entities."* **Practitioner 2**
>
> *"In my view, appropriate support should not only be about money but should include machinery, buildings (infrastructure) for operating from and from which new entrepreneurs can also be trained in various skills such as marketing, packaging and distribution to help them make quality products and transport the product to the right market. This will help them get established. I think that skills, buildings (infrastructure for operations) and money is the best combination that we have not had so far rather than just offer money."* **Educator 3**
>
> *"…business development services…would give confidence to people starting a business that help is available if they get stuck in the process of starting and running a business."* **Student 3**
>
> *"It would be better if business incubation services are established to provide continuous support to those starting. Infrastructure such as premises to operate from for those who are still getting established will also be appropriate."* **Student 4**
>
> *"Imparting skills on how to run and grow a business is very critical. I say so because a number of people may even have some money to start*

> *something but lack adequate knowledge about proper business practices such as cash flow management, pricing, marketing, evaluating a business idea, identifying business opportunities, strategies for growing a business. Skills training offered could be short courses but they should be on a sustained basis."* **Student 5**

Lastly, Practitioner 1 cites an example involving the Zambian government's Ministry of Youth and Sports which runs an empowerment scheme for youth out of school/work. In this scheme, once a loan for start-up capital has been approved, the nascent entrepreneur is required to undergo some business practices training for a month. However, as Practitioner 1 and Student 3 observe, this training only occurs at pre-start-up phase. What would be even more impactful are sustained business advisory, development and monitoring services during the fledgling period (0 to 3.5 years). This perspective is consistent with the GEM observations that, given the challenges of starting a new business, many fledgling businesses fail within 3.5 years (Kelley et al., 2011; Kelley et al., 2012; Martínez et al., 2010). The GEM observations are based on 54 developing and developed economies surveyed in 2011. The GEM survey did not include Zambia.

Overall Observation on the Effect of Regulatory Institution on EI

In a nutshell, favourable regulatory mechanisms comprising access to finance, sustained business advisory and training services, simplified regulations on business operations, lower formalisation costs, access to markets as well as affordable relevant infrastructure and technology can positively contribute to perception of potential entrepreneurs that starting a business is achievable. In addition, such mechanisms promote business start-up to a high social status. Nevertheless, favourable regulatory mechanisms do not always lead to positive outcomes. Educator 3, Practitioner 2 and Student 3 suggest that even if the regulatory support is favourable, not everyone will start a business. Personal issues such as willingness and readiness to bear risks, prior entrepreneurial

exposure as well as entrepreneurial and technical skills can all influence business creation.

Lastly, the current findings resonate with prior research that some nascent entrepreneurs would not have started their businesses if start-up support was not available (Gaspar, 2009). Another longitudinal study of 20 necessity micro-entrepreneurs given short-term loans by an NGO in Mozambique found similar impact (Tonelli and Dalglish, 2011). In that study, entrepreneurs were required to participate in mentoring, training and advisory services during the term of the loan. 80% of the business owners improved their businesses after a year's training while 35% recorded substantial business growth (Tonelli and Dalglish, 2011). Similarly, the GEM report on 38 countries indicates that a gain in actual business creation from entrepreneurship training is high "in contexts with favourable institutional environments" (Martinez et al., 2010, p.6). Therefore, sustained business development services and mentoring are required to support potential and nascent entrepreneurs (Sullivan, 2000).

8.1.1.2 Normative Institution's Influence on EI

A favourable normative institution refers to societal admiration of entrepreneurship, creativity and innovation. The interviews indicate that such an environment promotes the entrepreneurial career in a society. It also increases the likelihood of moral and material support from stakeholders. Below is a quote from Educator 2.

> *"If starting and managing one's own business is admired as a high status career in society, many individuals will intend to start a business. This is because it will be seen to be a good and admirable thing in society and that those that endeavour to start are more likely to receive moral and material support from family, friends, peers, colleagues, government and other institutions. I think that support is also more likely to be available if somebody encounters difficulties along the way."* **Educator 2**

Additionally, the above perspective is clarified by Student 7 that if people in society admire entrepreneurs, starting a business would be attractive "since individuals

rarely want to go against the masses". In assessing the Zambian situation, interviewees indicate that while admiration for entrepreneurship is increasing, the majority of those who start businesses are perceived as necessity entrepreneurs rather than opportunity entrepreneurs (Beeka and Rimmington, 2011; Chigunta, 2002; Kelley et al., 2012).

> *"In Zambia entrepreneurship is not yet highly admired as a career. But we have started moving in that direction."* **Practitioner 3**
>
> *"…but in Zambia, entrepreneurs who are admired are those who have succeeded. Those who are starting are not admired."* **Educator 3**
>
> *"If starting a business is admired as a high status career option, more people would want to start their own businesses. I have interacted with people in this country, I notice that most people both young and old believe that to succeed in life you need to look for and find a job and not to run your own business. I notice that even some of those who are in business would still want to find a job and run the business in their spare time."* **Practitioner 1**
>
> *"If entrepreneurship is admired as a high status career, more people will consider starting a business. But in Zambia the attitude to entrepreneurship is not favourable. People do not consider it as a career path. It is the last option just for survival."* **Educator 1**
>
> *"If entrepreneurship was perceived to be a high status career, this would be very positive and encourage many people to start business. In Zambia, the perception is that those who start businesses are those who have failed to find a job in the formal sector. So they are viewed as failures. They are viewed as strugglers. This entails that starting one's own business is the last option."* **Educator 2**

The interviews suggest that societal admiration of entrepreneurship increases the likelihood of moral, emotional, regulatory and material support from stakeholders. Such stakeholders include family, peers, colleagues, media, public and private institutions. In fact, a favourable normative institution not only positively impacts subjective norms and social capital but it also influences policy direction.

> *"If entrepreneurship is admired as a high status choice, more people would intend to start a business because of the perception that it is a good thing and so support from stakeholders will not be difficult."* **Educator 3**

The empirical evidence suggests that, to improve societal attitudes, there is need for multifaceted input from the media portraying business role models, from

community programmes created by enterprise support institutions, and from schools delivering EE at all levels. This is suggested by Student 6 who observes that in Zambia, people do not have enough understanding/knowledge of entrepreneurship as a high status career.

> *"I think that if we had many successful local business men and women, we would reach a level where starting a business is highly admired as a high status career."* **Practitioner 2**

> *"In Zambia entrepreneurship is not yet highly admired as a career. But we have started moving in that direction. We see now that enterprise support practitioners are often invited to churches, schools and other community events to give people first-hand information about business start-up and the support available. People are beginning to realise that for them to survive entrepreneurship should be seen as an answer to some of the challenges they face e.g. unemployment, need for increased household income."* **Practitioner 3**

Lastly, all interviewees suggest that the formal education system should provide the knowledge base and encouragement to promote entrepreneurship. Below are evidences from the interviews.

> *"Entrepreneurship training is also important. I know that at school from an early stage in Zambia, we are taught that we should work hard and upon finishing school we should look for a job. This is the way to be successful. So I think that if from an early stage we can be trained that we can be an entrepreneur and start something of our own and still be regarded successful, I think this will be able to change the mind-set."* **Student 3**

> *"To change these attitudes, I think we need to start teaching entrepreneurship at primary, secondary through to tertiary levels. We seem to have been brain washed to think that a white collar or blue collar job is more important. This problem is historical. Some other countries have made strides. This is when our country is starting to introduce entrepreneurship at tertiary level but I think it should start at primary level till tertiary. By the time a person reaches tertiary his/her mind-set is already formed and this may be too late. I think now as a country we have realised that the job market cannot take everybody. We have started making efforts but we are still very far in developing this."* **Practitioner 2**

Overall Observation on the Effect of Normative Institution on EI

In summary, a favourable normative institution impacts EI in two ways. Firstly, it promotes the status of entrepreneurship in society. Secondly, it increases the likelihood of moral, emotional, regulatory and material support from other

stakeholders such as family, peers, colleagues, public and private institutions. To rectify the attitude, a multifaceted input is required from the media, policy makers, government and non-government enterprise support institutions, as well as schools.

8.1.1.3 Cognitive Institution's Influence on EI

A favourable cognitive institution refers to generally shared knowledge and information in society about how to start and manage a business. The evidence indicates that it influences EI in two ways. Firstly, it increases people's understanding of what is involved in entrepreneurship. Consequently, it influences potential entrepreneurs' confidence in their abilities to start and manage a business. Secondly, it promotes the status of entrepreneurship

> *"…my view is that, if people know how to start and manage a business and this information is widely shared in society, there will be more individuals believing that they are capable of starting a business. In such an environment, more people will consider starting a business because they know that if they get stuck along the way, they can easily seek help."* **Educator 1**

> *"I think that if people generally know how to register a business, deal with all aspects of business competently, find markets for their products, I think they are more likely to feel confident about starting a business. And if this information is generally shared, there will be perception that starting a business is a good thing."* **Student 3**

Specifically, the 13 interviews highlight four major benefits that a favourable cognitive institution can offer. These benefits include shared knowledge about how to start, manage and grow a business (13); how to legally register and protect a business (13); how to identify and manage risks (13); and, how to identify and serve markets (13). In addition, it would increase potential entrepreneurs' confidence in starting and managing a venture. From their experiences, Practitioners 2 and 3 indicate that individuals with and without EI are distinguished in three aspects: knowledge about business; educational level; and,

entrepreneurial skills. These aspects also determine the success rate of nascent entrepreneurs, a view that resonates with prior research (Martínez et al., 2010; Robinson and Sexton, 1994).

Furthermore, the evidence suggests that besides formal education processes, other mechanisms for diffusing entrepreneurship knowledge/information include media, community programmes and enterprise support institutions. When these are widely spread across a country, they help promote entrepreneurship.

> *"…In Zambia, people mostly do not know how to start, operate and grow a business. They do not know where to find markets and other relevant information. The few relevant institutions like the PACRA (Patents and companies Registration Agency), ZDA (Zambia Development Agency) and the CEEC (Citizens Economic Empowerment Commission) are too centralised for information to be accessed easily by many citizens."* **Student 1**

> *"…In Zambia, people generally do not have knowledge and information about how to start and grow a business, where to find markets, and so on. Those who have information do not want to share. Most start-ups have a problem of finding information needed to conduct business idea evaluation. In other countries, information from government, government institutions and other institutions generating various statistics is available on websites for ease of access as input when one is conducting a feasibility study. In Zambia, those who have information want to charge for it. Private business development service providers charge unaffordable fees for their services, for example, coaching and training on how to register a business and how to develop a business plan."* **Educator 1**

> *"Shared information about entrepreneurship will lead to attitudes that are favourable to entrepreneurship. Shared information will also result in would-be entrepreneurs believing that starting a business is viable. "* **Educator 3**

> *"I think that if we had many successful local business men and women, we would reach a level where starting a business is admired as a high status career. I think now as a country we have realised that the job market cannot take everybody. Successful businessmen are starting to be acclaimed by the media and schools such that they are now often called to share their experiences in schools and in the media. We have started making efforts but we are still very far in developing this."* **Practitioner 2**

> *"The awareness is also being delivered through community and media programmes. So those who are paying attention to what is happening in the environment may get to know about available support."* **Practitioner 3**

Overall Observation on the Effect of Cognitive Institution on EI

A favourable cognitive institution increases people's understanding of what is involved in entrepreneurship. Consequently, it influences potential entrepreneurs' confidence in their abilities to start and manage a business. Additionally, it promotes the status of entrepreneurship. Lastly, all stakeholders such as government, entrepreneurs, support institutions, students, educators and the media should be involved in promoting entrepreneurship. This view also echoes extant literature (Matlay, 2009).

8.1.1.4 Summary of Effects of Institutional Factors on EI

The empirical evidence has shown that regulatory, cognitive and normative institutions have an effect on entrepreneurship cognition and behaviour. Specifically, these institutional factors have an influence on EI through perceptions that business start-up is not only possible but also worthwhile. Besides the regulatory, normative and cognitive institutions, perceived difficulties in the labour market may compel some people to the entrepreneurship trajectory (Beeka and Rimmington, 2011; Kelley et al., 2012). However, Practitioners 2 and 3 and all the educators and students interviewed observe that while business start-up may be one of the options in the quest for livelihood, it may not be feasible. Consequently, the influence of low job prospects is limited. This is because it may not necessarily lead to EI or successful start-up if perception of feasibility is absent. The implication is that although lack of job opportunities may be a trigger, other factors that affect feasibility and desirable are more important, a view that is consistent with prior research (Byabashaija and Katono, 2011; Dohse and Walter, 2012; Shapero and Sokol, 1982).

Lastly, prior research conceptualised and investigated institutional factors' effect on entrepreneurship based on macro level variables (Bruton et al., 2010).

Empirical evidence in the current study has contributed to filling the knowledge gap by examining the influence of institutional factors on micro variables i.e. individual cognition (Bruton et al., 2010, Wicks, 2001; De Clercq et al., 2011).

8.1.2 Individual and Background Factors' Influence on EI

Prior research indicates that individuals choose careers/jobs that match their personalities, needs and interests (Holland, 1959; Holland, 1997; Judge and Kristof-Brown, 2004; Kristof-Brown et al., 2005; Rauch, 2007; Zhao and Seibert, 2006).This is because individuals differ in ability, temperament, speed and style of learning. Thus, facing the same information, skills, opportunities or costs, some individuals will decide to exploit an entrepreneurial opportunity while others will not (Shane, 2003). This means that these individuals may have a combination of psychological characteristics which, in interaction with other background and contextual factors, make them more likely to attempt to found a business (Frank et al., 2007; Gnyawali and Fogel, 1994; Krueger and Brazeal, 1994; Learned, 1992). Founding and managing a business requires that an entrepreneur plays a number of unique roles. For instance, such roles include innovator, risk taker and bearer, manager, relationship builder, risk reducer and goal achiever (Chen et al., 1998). The implication is that individuals are attracted to entrepreneurship because of a self-perceived match between their characteristics and the demands of entrepreneurship (Dyer, 1994; Frank et al., 2007; Rauch and Frese, 2007; Zhao et al., 2005).

Consistent with the theoretical perspectives above, the interviews indicate that individuals are different and those with characteristics and backgrounds aligned to the requirements of entrepreneurial tasks and activities are more likely to start a business. Below are two quotes from the interviews.

> *"…from my experience in interacting with entrepreneurs that come to our institution to access various support facilities, I have observed prominent personal characteristics among these entrepreneurs; the characteristics include risk taking tendency, appetite to achieve something and the desire to be independent in life…the desire and belief to determine their own destinies and future…wanting to be one's own boss…such people believe in their own abilities and are attracted to the rewards of business."* **Practitioner 3**

> *"…for individuals who are starting businesses in this country, there are many reasons at play…having a background of running a business or a family business is one of them; for example, if one has inherited a business or one is a prior founder, entrepreneur or it could be the trend in the family where the entrepreneurial spirit is drawn from. Such people are attracted to the life of an entrepreneur because they not only consider it a good thing but they also feel more capable of doing it because they have seen it before."* **Educator 2**

Specifically, the 13 interviews identified major individual and background factors relevant to entrepreneurship. These factors include internal locus of control (13), need for achievement (12), risk taking propensity (13), and prior entrepreneurial exposure (7).

8.1.2.1 Locus of Control's Influence on EI

The interviews indicate that individuals who believe that through effort they can achieve their goals are more likely to start a business. Such individuals have an internal locus of control (ILC). Below are quotes from the interviews, including one from Student 2 who is already an entrepreneur and intends to grow her business.

> *"I believe that as an individual I determine my own destiny and any external obstacles such as not having support from others can be overcome. Having my own business gives me an opportunity to have the lifestyle I want."* **Student 2**

> *"those who believe that they are in control of their destinies are more likely to attempt to go into business but those who focus on obstacles and external challenges may not attempt let alone succeed because they easily give up."* **Educator 2**

> *"Individuals who think they are masters of their own destiny, who believe that if they work hard they will be able to achieve their own goals, are likely to be entrepreneurs. Individuals who are unlikely to be entrepreneurs are those who resign themselves to fate i.e. the view that whether one succeeds or not was meant to be that way…masters of their own destiny*

are likely to believe that going into business is a good thing for them as it would enable them achieve their goals ." **Educator 3**

From the foregoing, individuals with high ILC are more likely to start a business. This is because starting a business requires a high degree of belief in one's abilities to influence outcomes. In addition, such individuals find starting a business attractive because it provides a direct link between effort and one's desired outcomes. This view is consistent with prior research that individuals with high ILC believe that their own efforts determine whether or not they achieve their goals (Judge et al., 2002; Rotter, 1966). Unlike individuals with an external locus of control, such individuals underplay the influence of luck, fate and obstacles in the environment. Prior research further indicates that an individual's belief about the value of entrepreneurial opportunities depends partly on his/her own evaluation of his/her abilities to exploit those opportunities. This evaluation in turn depends on the degree to which the individual believes he/she can influence outcomes. Thus, an individual with higher ILC is more likely to have higher EI (Lüthje and Franke, 2003; Rauch, 2007; Verheul et al., 2012).

8.1.2.2 Need for Achievement's Influence on EI

The interviews indicate that individuals with higher need for achievement (NAch) are more likely to start a business. Below are quotes from Student 2 who explains the decisions she had to make in starting her business as well as Practitioners 2 and 3 who cite their experiences with entrepreneurs.

"…(Worked for… years in a government department)…I did not like the work culture and I wanted to achieve something meaningful on my own. So I quit and decided to start a retail business dealing in…I was running the business with the assistance of…but I had no business management skills. I encountered problems with managing cash flow and I did not know how to expand the business. To improve my skills, I decided to study for the…to equip me with marketing skills. But this did not help me with managing cash flow and how to competently handle other aspects of the business. So three years into running my own business, I decided to sponsor myself to study this…(while remotely supervising staff and checking on them in person on a…basis so that the business is running smoothly)." **Student 2**

> *"…for them (entrepreneurs) to have even been comfortable to pledge their only house as collateral I think apart from being risk taking, they believe in their own abilities to influence their success. These people's dedication to achieve growth in their business is evidenced from the collateral they pledged… Another interesting observation is that some people that come together to work as a cooperative or as friends to do business together are among those not successful and they blame a lot of external factors for failure…the fighting spirit does not seem to be there among those who fail. Those who succeed seem to exhibit a fighting spirit in spite of obstacles."* **Practitioner 1**

> *"an appetite to achieve something meaningful in one's life and to be independent in life leads one to consider starting a business. We see this in individuals who say they are tired of working for somebody else; Instead of working every day for somebody else, they think that they should do this for themselves and achieve something meaningful for themselves…it is not surprising that such people find business attractive and believe that they can succeed despite the obstacles".* **Practitioner 3**

The interviews indicate that individuals who are ambitious and believe that success depends on their own efforts are more likely to start a business. This finding resonates with prior research that individuals with higher NAch are more likely to have EI (Brockhaus and Horwitz, 1986; Frank et al., 2007) and subsequently engage in entrepreneurship (Frank et al., 2007; Rauch and Frese, 2007). Extant literature construes NAch as an individual's persistence, hard work and motivation for significant accomplishment. It is the most consistent personality predictor of job performance across all types of work and occupations (Zhao and Seibert, 2006). NAch drives an individual to seek careers and tasks in which performance is due to one's own efforts and not the efforts of others (McClelland, 1965). No wonder individuals with a high NAch are more likely to choose to engage in entrepreneurship.

8.1.2.3 Risk Taking Propensity's Influence on EI

The interviews indicate that individuals with high risk taking propensity (RTP) are more likely to start a business. For instance, Educator 3, Student 7, Practitioners 2

and 3 observe that generally individuals who are open to new ideas and are comfortable dealing with risk and situations of uncertainty are likely to find entrepreneurship attractive and viable.

> *"I have seen from my experience that for entrepreneurs to be comfortable even to pledge their only house as collateral, I think they are not only taking risk but they also believe in their abilities to influence the outcomes of the businesses they start…needless to say, they are attracted to business."* **Practitioner 1**

> *"I know that individuals who are generally comfortable dealing with uncertainty and risk feel capable of handling the uncertainties of starting and managing a business. They find entrepreneurship to be exciting and attractive. Such individuals have higher odds of starting a business."* **Educator 3**

> *"Business offers no certainties. Businessmen and women invest money today and hope that in the near future they will get a return. The entrepreneurs I have dealt with are individuals who are generally open to new ideas and are ready and feel capable of dealing with uncertainty. So entrepreneurs are risk takers. They take risk because they are excited about the potential rewards. So I think people who don't fear uncertainty will be attracted to start a business and they will consider it doable despite the uncertainties it brings."* **Practitioner 3**

RTP connotes the tendency for an individual to embrace or shun tasks and situations that involve uncertainty (Segal et al., 2005). This means that some individuals, more than others, would be eager to start something new or engage in an activity even if they have no guarantee as to whether it will succeed or not. The founder of a business commits resources to an activity that may or may not yield positive results. Therefore, business start-up is fraught with uncertainty. No wonder individuals with higher RTP are more likely to engage in entrepreneurship (Frank et al., 2007; Lüthje and Franke, 2003; Zhao et al., 2005).

8.1.2.4 Prior Entrepreneurial Exposure's Influence on EI

In addition to the major individual characteristics discussed above from subsections 8.1.2.1 to 8.1.2.3, the interviews indicate that individual background influences EI. The major background factor identified is prior entrepreneurial

exposure (PEE). The evidence suggests that individuals with PEE are more likely to find entrepreneurship attractive. They are also more likely to have confidence in their abilities to start and manage a business. Below is a quote from the interview with Practitioner 3.

> *"We have also seen that for some people, they find entrepreneurship attractive and achievable if they have closely seen or worked with a successful role model who could be a neighbour, friend or family. In this way, they also become motivated to consider starting a business. Such individuals believe that starting and managing a business is possible because they have seen it done before and also because they think they know where to get help if needed."* **Practitioner 3**

Consistent with the above perspective, Practitioner 1 recalls dealing with entrepreneurs who already had existing businesses when they sought further funding for expansion or to start another business. These were either owner managers or individuals running family businesses. Educator 2 and Student 4 indicate that individuals who have either founded a business before or have family members as entrepreneurs are more likely to engage in entrepreneurship. This is because such individuals are exposed to entrepreneurship. Consequently, they have higher confidence that they can start a business and that it is a desirable undertaking. This view is consistent with prior research (BarNir et al., 2011; Carr and Sequeira, 2007; Krueger, 1993).

8.2. The Intervening Role of EE on Effects of Factors Influencing EI

The preceding section has discussed the evidence on what, how and why institutional and individual factors influence EI. This section discusses how entrepreneurship education (EE) affects the relationships between institutional factors and EI as well as the relationships between individual factors and EI.

8.2.1 EE Intervening in the Effects of Institutional Factors on EI

The interviews indicate that the effects of the entrepreneurial environment on EI are mediated by the level of entrepreneurship knowledge and skills acquired

through EE i.e. effectiveness of EE. This is because individuals learn how to start and manage a business within a specific environmental context. In other words, a favourable entrepreneurial environment makes people realise the value and importance of entrepreneurship and enhances the perception that it is achievable. This realisation affects interest, attitude and zeal in EE. Thus, institutional factors affect the effectiveness of EE. This in turn influences perception that business start-up is both possible and worthwhile. Below are three quotes from the interviews.

> *"I think that entrepreneurship education enables individuals to understand their environment better and how that environment would influence success or failure for a prospective start-up. Therefore, students become more aware of the support or lack of support in the environment from various stakeholders. However, the environment affects the extent to which they believe entrepreneurship is important and worthwhile. For me this perception affects interest and intensity of involvement in the entrepreneurship module. Ultimately, this affects the extent which one learns how to start and manage a business and the extent to which they believe that entrepreneurship is worthwhile. In the end, I think it will affect the business start-up decision."* **Educator 2**

> *"Training helps individuals become more aware of their environment from a business point of view. It also highlights how to identify the opportunities and support in the environment and how to benefit from the available support. But unsupportive environment affects the level of interest and effort in the training. Now if the environment is unsupportive, it will adversely affect how the individual applies himself/herself during the training and this would affect the extent to which the individual thinks that he/she has learnt how to start and manage a business through the training. It will also affect the thinking about whether business start-up is worth it and possible. So for me, it is clear that we need to improve the support in the environment and offer training for us to promote entrepreneurship."* **Practitioner 2**

> *"…the course has given me an opportunity to learn about and interact with specific sources of support and how to access that support… Of course, there are many challenges in the environment for business start-ups but we have learnt some alternatives/options to try and deal with those."* **Student 5**

Extant literature indicates that perceived business environment influences new business creation (Zahra, 1993; Zahra and Covin, 1995; Souitaris et al., 2007). Based on reviews of extant literature, scholars indicate the need to explore if, why and how EE and its impact differ in different learning contexts and with different

individuals (Rideout and Gray, 2013; Wang and Hugh, 2014). These interviews clarify that institutions will drive people to EE. This means that favourable institutions will make people realise the value and importance of entrepreneurship and this would impact their interest, attitude, and effort toward EE, ultimately affecting the effectiveness of EE. EE not only helps develop knowledge and skills but also clarifies the benefits of entrepreneurship. The effectiveness of EE would then influence perceptions that entrepreneurship is valuable and viable. Thus, the effect of the entrepreneurial environment on EI is mediated by level of knowledge of entrepreneurship achieved through EE. In other words, the environment has an influence on the effectiveness of EE. This in turn influences perception that business start-up is possible and worthwhile.

The evidence also indicates that, given the same entrepreneurial environment, EE participants would perceive the same environment more favourably than non-participants. This is because, during EE, participants have opportunities to assess various aspects of the entrepreneurial environment. Thus, they gain understanding of the environment's effect on a potential start-up. They also consider how to mitigate challenges in the environment. This view echoes perspectives in extant literature that, although it is difficult to prepare fully for the challenges of entrepreneurship, some prospective entrepreneurs are more prepared than others. This underscores the importance of prior knowledge, training and experiences (Cope, 2005; Gibb and Ritchie, 1982).

8.2.1.1 EE Intervening in the Effect of Regulatory Institution on EI

The interviews establish that the regulatory institution affects the effectiveness of EE. Specifically, individuals who think that the regulatory institution is conducive to business start-up are more likely to be interested and motivated to acquire entrepreneurship knowledge and skills through EE. Knowledge of

entrepreneurship will in turn affect the thinking that business start-up is possible and worthwhile. Below are two quotes from the interviews.

> *"…business development and advisory services from government and other institutions for SMEs are important. They re-assure me that help is available if I need it along the way when I start my business…availability of such support affects enthusiasm and effort with which one responds to entrepreneurship training…this affects the training…So my confidence in whether I have learnt enough to start a business will be affected by the perception about whether the environment is supportive."* **Student 5**

> *"Available support currently includes access to capital from CEEC and microfinance institutions though the latter prefer dealing with salaried employees. But most, if not all, available debt finance requires collateral. So it is not easy for someone who cannot meet these conditions, especially us young ones at the start of our careers. There are no specific places where one can go for business advisory services in Zambia…. Because of such challenges, many of my fellow students have low interest in becoming an entrepeneur and in entrepreneurship training...So even if I receive training on how to start and run a business, the extent to which I think I have acquired enough knowledge and skills to successfully start a business is hampered by these challenges in the environment."* **Student 6**

Moreover, EE exposes individuals to the techniques, tools and processes of how to start and manage a business. It also provides an opportunity to learn what the regulatory environment requires. Thus, participants in EE understand the regulations better. They also understand how to access the available support. Below are quotes from the interviews.

> *"…because of my participation in EE, I have known the players in enterprise support and what I need to do to access the support from these institutions…also I think that the fact that some level of support is available for start-ups means that entrepreneurship is considered important in this country."* **Student 7**

> *"While the argument from my parents is that I should not start a business because start-up capital is a challenge, I have learnt that not all businesses require huge amounts of capital to start with. In addition, through networking I can raise the necessary capital or work with partners. For example in my case, the past few months with my colleagues we have been undertaking consultancy services to upcoming entrepreneurs and SMEs on how to prepare business plans from which we have managed to raise some money we will use to start a…business. So it has broadened and deepened my options on how to start a business."* **Student 4**

Furthermore, as illustrated by Student 4, the interviews indicate that EE helps participants to consider and develop alternatives to mitigate challenges. Overall, it is clear that perceived conduciveness of the regulatory institution affects confidence in the level of knowledge and skills acquired through EE. This in turn affects perceived feasibility and desirability of entrepreneurship.

8.2.1.2 EE Intervening in the Effect of Normative Institution on EI

The interviews show that societal admiration of entrepreneurship affects individuals' attitudes to entrepreneurship learning. This means that the attitude to entrepreneurship affects effort, zeal as well as actual and perceived performance in EE. Perceived effectiveness of EE will in turn influence the thinking that business start-up is possible and worthwhile. Below are quotes from the interviews.

> *"I think that the general attitude in society and from the school system from an early stage in Zambia is that one should work hard and upon completion of school look for a well-paying Job… this is the way to be successful in life. So I think that if society highly admired entrepreneurs and if we were also pointed to the option of starting and managing one's own business from an early stage in life, this would change the mind-set and attitude with which one enters entrepreneurship training. This in turn affects learning… achievements and ultimately the belief that one is able to start something and whether it is worth it. For example, we have some of our colleagues who are not taking the module who ridicule us that we are wasting our time because self-employment is for those who are stranded and can't get a job elsewhere."* **Student 6**

> *"The training has helped me learn to deal with negative attitudes about entrepreneurship from others. Despite negative attitudes you learn to be decisive and not procrastinate since you understand what needs to be done. In fact, I know that the same people who criticise me will begin to admire me once I succeed. This is because, in our society, successful entrepreneurs are admired. But those who are starting and those who have failed are not admired…but this is not to diminish the fact that society's attitude affects me as a student in terms of my attitude toward training. I must admit this ultimately negatively affects learning, my confidence in my abilities to start something and the conviction that I am doing the right thing for myself."* **Student 3**

Moreover, the evidence suggests that EE participants are likely to be more assertive in dealing with negative attitudes from society about entrepreneurship.

This is because they develop an understanding of what is involved in entrepreneurship as well as its benefits. In summary, it is clear that the normative institution influences attitudes, zeal and effort in entrepreneurship education, thereby impacting its effectiveness. Effectiveness of EE in turn influences the perception of feasibility and desirability of entrepreneurship. Ultimately perceived desirability and feasibility of entrepreneurship determine EI.

8.2.1.3 EE Intervening in the Effect of Cognitive Institution on EI

The interviews indicate that generally shared information in society about entrepreneurship influences the effectiveness of learning. This learning in turn influences the perception that entrepreneurship is possible and that it is valuable. Below are three quotes from the interviews.

> *"I think that if information about how to start and manage business is rarely shared in society and if the level of understanding about entrepreneurship is generally low in society, this would negatively affect entrepreneurship training… because participants enter with low levels of understanding about entrepreneurship and its benefits. So they are less interested in what they are learning. I think this affects the outcome of the training as well as the confidence that one is able to successfully venture."* **Practitioner 1**

> *"…we have overemphasised the value of getting paid employment in existing organisations i.e. getting a white collar or blue collar job rather than being self-employed and so information about starting and running business is not generally shared…; I think we should have started sharing this information much earlier through primary and secondary schools, the media and in the community. By the time a person reaches tertiary education, his/her mind is already set and this may be too late…as it detracts from the effect of entrepreneurship training… I think it affects the attitude and interest in business start-up and the training itself…and this would affect the thinking that one is capable of becoming an entrepreneur and that it is worthwhile."* **Practitioner 2**

> *"I think that exposing an individual to entrepreneurship education would deepen understanding of what is involved and the benefits…So the effect of education should be positive though not as much as it would be if society shared that information and knowledge widely. This ultimately affects whether one values entrepreneurship and feels capable of doing it."* **Practitioner 3**

Further to the perspectives in the quotes above, Educator 1 suggests that EE not only clarifies the benefits of entrepreneurship but also provides specific, accurate

knowledge about how to start and manage a business. However, if the level of knowledge and information shared about entrepreneurship in society is low, this affects the level of interest in EE and, therefore, the extent to which participants learn how to successfully start a business. This means that shared entrepreneurship knowledge and information in society affects the extent to which students believe entrepreneurship is important and this influences effort, interest and the consequent performance in EE. Therefore, it is clear that conduciveness of the cognitive institution influences effectiveness of EE. Effectiveness of EE in turn affects perceptions of feasibility and desirability of entrepreneurship.

8.2.2 EE Intervening in the Effects of Individual Factors on EI

The interviews indicate that EE not only clarifies the benefits of entrepreneurship but also develops capacity in terms of entrepreneurship knowledge and skills. However, EE participants differ in ability, temperament, personality, interests and upbringing/socialisation. Some characteristics on which individuals differ determine whether one considers the tasks, roles and activities of entrepreneurship attractive and manageable. Individuals with characteristics required for entrepreneurship have favourable attitudes to entrepreneurship and, therefore, EE. This favourable predisposition affects effort and performance in EE. This in turn leads to higher perceptions that business start-up is not only possible but also worthwhile. Below are quotes from the interviews.

> *"Individuals with relevant characteristics have higher odds of starting a business and achieving higher learning outcomes on how to run a business. This is because they already find it attractive to engage in such activities and so they apply themselves more during the training."* **Student 4**

> *"…Individuals with characteristics appropriate for entrepreneurship are more likely to do better in entrepreneurship training. This is because they are more excited about the prospect of starting a business and so more eager to learn how to do it successfully…because they learn more and faster, they feel more capable."* **Student 5**

> *"For individuals who receive entrepreneurship training, the level of confidence in abilities to start a business is enhanced because of the knowledge, tools and techniques they acquire. That said, we should remember that two individuals can be taught how to build a house but one may actually decide to build and the other may decide not to build. Moreover, even if they both decide to build, the size and type of house may differ. So the individual factors will still have some effect both on entrepreneurship and the learning outcomes…this will reflect in differences in abilities and attraction to self-employment."* **Educator 3**

The preceding perspectives are consistent with extant literature that attitude and interest toward a subject influence effort in learning and consequent performance (Blickle, 1996; Chamorro-Premuzic and Furnham, 2003; De Fruyt and Mervielde, 1996; Lewis et al., 2009; Lievens et al., 2002; Matlay, 2010). Therefore, individual factors relevant to entrepreneurship would influence the effectiveness of EE. This is because individuals with relevant characteristics are more attracted to entrepreneurship and, therefore, are more eager to learn how to become successful entrepreneurs. Effectiveness of EE in turn influences perceptions of feasibility and desirability of entrepreneurship.

8.2.2.1 EE Intervening in the Effect of Risk Taking Propensity on EI

Risk taking propensity (RTP) is willingness and readiness to bear uncertainty (Ahmed, 1985). The interviews indicate that RTP influences effectiveness of EE. This is because entrepreneurship requires managing uncertainty and so individuals with high RTP are more receptive to learn about entrepreneurship. Consequently, the difference in attitude, effort and zeal would affect performance in EE. EE clarifies the benefits of entrepreneurship and helps build capacity to engage in business start-up. Therefore, effectiveness of EE in turn influences perceived feasibility and desirability of entrepreneurship. This is clear in the case of Student 2 who had already voluntarily resigned from organisational employment to start a business. After she realised she did not have enough skills to handle

certain aspects of the business, she decided to pursue EE. At the end of the course she declares:

> *"Speaking from my experience, I can say that I have been transformed during these four years in entrepreneurship education. I now have confidence to take on bigger challenges. I am now able to grow my business. I am now more creative and can follow through the process of innovation. I can identify, evaluate, reduce and manage higher risks in a business. I can manage finance and handle human resources issues…At the end of a mandatory internship in third year, I was at the… and was offered a job but I declined because my priority now is to grow my business."* **Student 2**

> *"Individuals who are ready and willing to deal with uncertainty are attracted to entrepreneurship. Such individuals are also more interested in entrepreneurship training because they want to learn how to engage in entrepreneurship succesfully. Therefore, they would benefit more from such training because of their interest."* **Practitioner 3**

The evidence clearly shows that RTP influences the level of knowledge of entrepreneurship acquired through EE. Entrepreneurship knowledge and skills in turn influence perceived feasibility and desirability of entrepreneurship.

8.2.2.2 EE Intervening in the Effect of Internal Locus of Control on EI

An individual with an internal locus of control (ILC) believes that through effort and capability one can achieve his or her goals (Ahmed, 1985; Rotter, 1966). Faced with challenges and obstacles, such individuals have a tendency to persevere. They are also attracted to activities that show a direct link between effort and outcome.The interviews indicate that ILC influences effectiveness of EE. This is because individuals with higher ILC enter EE with higher confidence in ability to perform in education and in the challenging tasks of entrepreneurship. They are attracted to entrepreneurship because it provides a direct link between effort and rewards. Generally, such individuals already possess higher self-belief to succeed. Consequently, they would report higher perceptions of learning in EE. Below is a quote from the interviews.

> *"I think that individuals who are naturally confident in their ability to achieve anything are attracted to entrepreneurship because it requires a person to believe in his or her own efforts and abilities to achieve results. Such individuals are likely to have a more positive attitude to learning the challenging tasks of starting and managing a business…understanding of entrepreneurship will bring about a conviction that starting a business is achievable and that it is a good thing… So I think such individuals will have an advantage in learning entrepreneurship."* **Student 5**

The forgoing perspective is clarified by Student 2 that she believes that as an individual she determines her own destiny and any external obstacles can be overcome. She acknowledges that EE has transformed her to the extent that she now believes she has more capacity to grow the business she already owns. This view resonates with prior research that entrepreneurs have higher ILC than non-entrepreneurs (Mueller and Thomas, 2001; Ahmed, 1985). This means that entrepreneurs believe that the outcome of a business venture is mainly determined by their own efforts.

Overall, it is clear that Individuals with high ILC have higher perception of knowledge and skills acquired through EE. The reasons for this are twofold. Firstly, entrepreneurship requires belief in one's abilities and efforts to achieve desired outcomes. Such individuals already have this belief and EE helps develop it further. Secondly, such individuals are learning to perform tasks that they already find challenging and attractive. Hence, they are more eager to learn how to be successful entrepreneurs. Effectiveness of EE in turn influences perception that entrepreneurship is not only possible but also worthwhile.

8.2.2.3 EE Intervening in the Effect of Need for Achievement on EI

Need for achievement (NAch) is based on the expectation of doing something better than others or better than one's earlier accomplishments (Ahmed, 1985; McClelland, 1967). The interviews indicate that NAch affects the effectiveness of EE. This is because individuals with high NAch are attracted to the tasks/activities that pose a high challenge yet achievable. They are also attracted to activities that

provide a direct link between one's effort and meaningful accomplishments. Business start-up is one such activity. Therefore, individuals with a high NAch report higher learning achievement in EE because they have a favourable attitude to learning about how to be successful entrepreneurs.

> *"Individuals with a high need to achieve something meaningful in life have higher odds of doing better in the course on entrepreneurship. I say so because entrepreneurship gives them something that can distinguish them from others and so they are excited about it already. Such individuals will apply themselves more in the learning process and this will lead to higher performance. So they will feel more capable about starting something."* **Educator 2**

Overall, it is clear that individuals with high NAch are more likely to report higher effectiveness of EE. This is because they are learning how to perform tasks that they find attractive. Knowledge of entrepreneurship acquired through EE influences perception that business start-up is both possible and valuable.

8.2.2.4 EE Intervening in the Effect of Prior Entrepreneurial Exposure on EI

The interviews indicate that the breadth and positiveness of prior entrepreneurial exposure (PEE) affects not only one's desire to engage in entrepreneurship but also the belief that it is achievable. The evidence also shows that PEE affects the effectiveness of EE. This means that individuals with PEE already find entrepreneurship attractive. Therefore, they enter the process of EE with a favourable attitude to learn more about how to be successful entrepreneurs. Below are quotes from the interviews.

> *"We have also seen that for some people, they find entrepreneurship attractive and achievable if they have closely seen or worked with a successful role model who could be a neighbour, friend or family. In this way they also become motivated to consider starting a business… Therefore, such individuals enter entrepreneurship training eager to learn more about how to become successful at what they already like. So I think they have an advantage over those who do not have such exposure… More understanding should result in more confidence that they can do it and that it is the best thing for them…"* **Practitioner 3**

> *"Speaking from my experience, I came here already owning a business but I wanted to learn more so that I can have capacity to grow my business. I can say that I have been transformed during these four years in entrepreneurship education. I now have confidence to take on bigger challenges. I am now able to grow my business. I am now more creative and can follow through the process of innovation. I can identify, evaluate and manage higher risks in a business. I can manage finance and handle human resources issues…At the end of a mandatory internship in third year, I was at the... and was offered a job but I declined because I want to grow my business."* **Student 2**

> *"Once they go through entrepreneurship training they see the benefits of being an entrepreneur and acquire the knowledge, skills and techniques to successfully engage in business start-up."* **Practitioner 1**

The foregoing evidence suggests that EE not only clarifies the benefits of entrepreneurship but also helps develop capacity to successfully engage in business start-up and growth. However, PEE affects attitude, zeal and effort in EE. Peterman and Kennedy (2003) find that individuals with PEE are more likely to choose to participate in EE. This means that the level of interest in EE differs depending on the indvidual. This would result in differences in the effectiveness of EE. Therefore, the evidence clarifies that PEE influences the level of entrepreneurship knowledge and skills acquired through EE. This in turn further influences perceptions that business start-up is not only possible but also valuable.

8.3 Implications of Findings to the Conceptual Model

The preceding empirical evidence indicates that institutional factors and individual factors positively influence EI. In addition, as indicated in Figure 8.1, EE mediates the relationships between EI and its institutional and individual determinants. This means that both individual and institutional factors have an influence on an individual's perceived and actual effectiveness of EE. Effectiveness of EE in turn influences EI through the perceived feasibility and desirability of entrepreneurship.

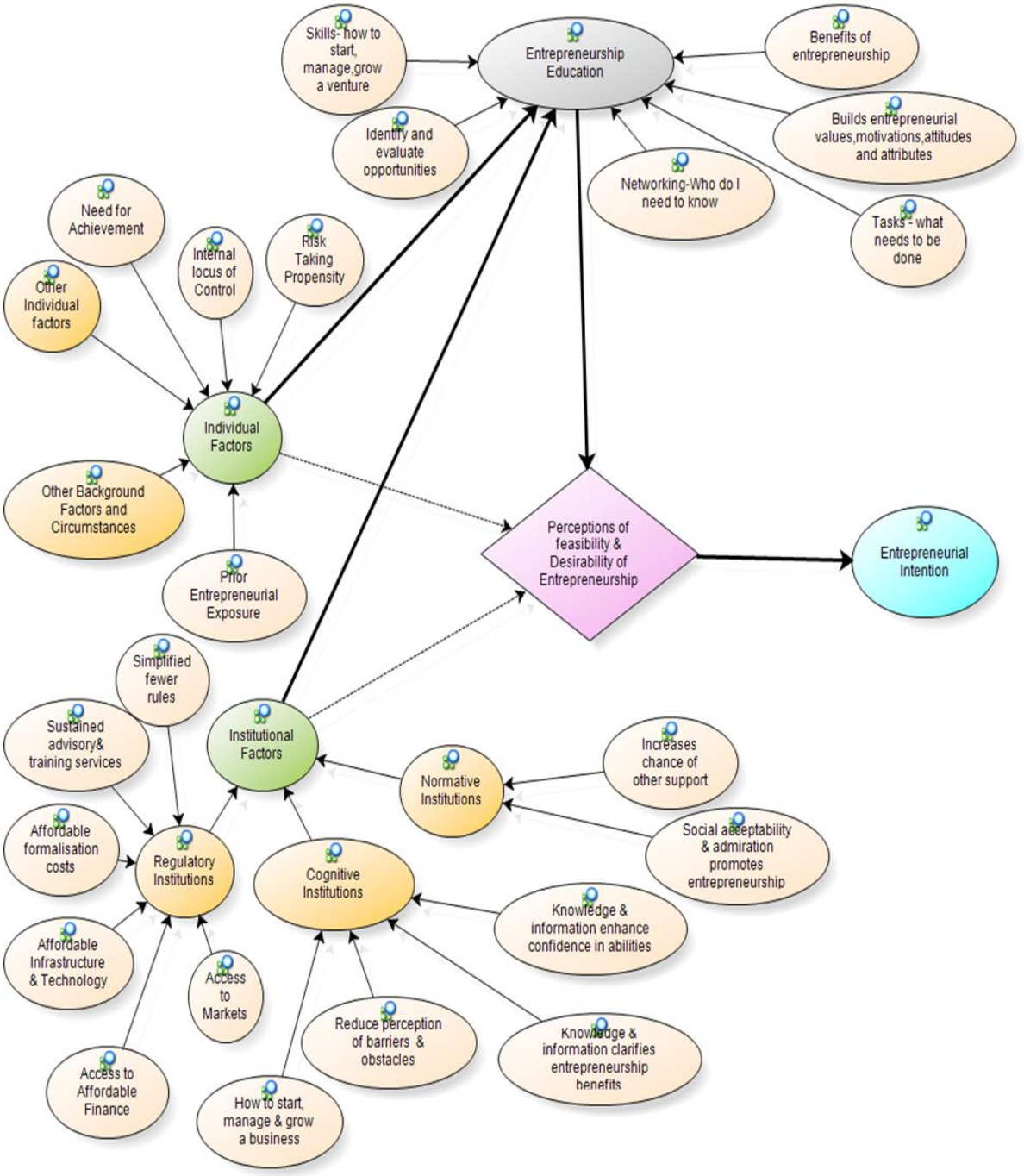


Figure 8.1 - Overview of Qualitative Research Findings on Determinants of EI

Based on the literature review, the conceptual model (Figure 6.2 in chapter 6 section 6.1) was developed to guide enquiry on factors influencing EI and the role of EE. The conceptual model was the basis for conducting qualitative research through interviews with practitioners in entrepreneurship support institutions, educators and final year university students participating in EE in Zambia. Based

on the qualitative research results discussed in this chapter, the proposed conceptual model is supported. The conceptual model is also tested through quantitative research which involved a survey of final year university students in Zambia. The results of the survey are discussed in chapter 9.

8.4 Conclusions

This chapter has discussed the qualitative research results based on 13 interviews with practitioners in entrepreneurship support institutions, educators and final year undergraduate students involved in EE in Zambia. The results have been discussed in the context of extant literature on factors influencing EI. In a nutshell, the conclusions are twofold:

Firstly, individual and institutional factors influence EI via perceived feasibility and desirability of entrepreneurship. Specific elements of the individual and institutional factors are involved. With respect to individual factors, major influences include need for achievement, risk taking propensity, locus of control and prior entrepreneurial exposure. These influence perception that entrepreneurship is a valuable undertaking and that it is possible. The major institutional factors include the normative, cognitive and regulatory institutions. While perception of low job prospects in the labour market may lead an individual to consider starting a business, the evidence suggests that its influence is limited. This is because it may not necessarily lead to EI or successful start-up if perceived feasibility is low. This means that although lack of job opportunities may be a trigger, other factors that affect feasibility and desirability may be more important. These findings show how institutions affect individuals' cognition and EI; institutions influence perception that business start-up is worthwhile and viable. Hitherto institutions have been

conceptualised and investigated as determinants of entrepreneurial activity at macro level (Bruton et al., 2010; Wicks, 2001; De Clerq et al., 2011).

Secondly, EE has an intervening role in the relationships between EI and its individual and institutional determinants. This entails that individual and institutional factors influence effectiveness of EE i.e. level of entrepreneurship knowledge and skills acquired through EE. Effectiveness of EE in turn influences EI through perceived feasibility and desirability. This means that institutions drive people to EE; institutions make people realise the importance of entrepreneurship and this leads to interest, favourable attitude, and effort toward EE. This affects the effectiveness of EE. Effectiveness of EE then affects feasibility and desirabaility perceptions. Individual factors also influence zeal, effort and receptiveness toward entrepreneurship and EE. This affects the effectiveness of EE which in turn influences EI via perceived feasibility and desirability. Lastly, some scholars suggest that EE and its impact may differ in different learning contexts and with different individuals (Cope, 2005; Wang and Hugh, 2014; Rideout and Gray, 2013). Moreover, De Clercq et al. (2011) recommend that future studies should investigate combinations of individual and institutional factors' influence on perceived feasibility to start a business. However, hitherto, no empricial study has developed, tested and validated a conceptual model to reflect these suggestions. Clearly, the results in this study have shown that individual and institutional factors are the primary predictors of EI. The role of EE is to provide additional avenue/mechanism for individual and institutional factors to influence EI. The next chapter discusses the quantitative research results.

CHAPTER 9: QUANTITATIVE RESEARCH FINDINGS

9.0 Introduction

The preceding chapter discusses the qualitative research findings. This chapter reports and discusses results of quantitative testing of the conceptual model. The results are based on the survey data from 452 final year students participating in entrepreneurship education (EE) in Zambia. Additionally, the results are interpreted and discussed in the context of findings from qualitative research and prior research. Following validity and reliability analyses of quantitative measures in Chapter 7, the score on each dependent, independent and intervening variable for each respondent was obtained by averaging the score of the retained items. However, for prior entrepreneurial exposure, the score was the average of the 5-point Likert scales and dichotomous scales.

Section 9.1 highlights inter-correlations among all the variables. Section 9.2 discusses multiple regression tests of the entrepreneurial intention (EI) model. Section 9.3 highlights regression-based mediation analyses guidelines in the extant literature. Section 9.4 discusses the tests of EE mediating the effects of individual and institutional factors on perceived feasibility and desirability of entrepreneurship. The overall conclusion is that indeed EE has an intervening role. Specifically, it mediates the effects of individual and institutional factors on perceived feasibility and desirability of entrepreneurship. Perceptions of feasibility and desirability then determine EI.

9.1 Correlation Analyses among all Variables

The Table 9.1a reports the means and standard deviations of dependent, independent, mediating and control variables. The correlations among the

variables are also presented. Relatively low inter-correlations among variables indicate that multicollinearity should not be a concern (Burns and Burns, 2008; Hair et al., 2006; Pallant, 2010; Wang and Ahmed, 2009). Multicollinearity manifests a statistical phenomenon in which two or more predictor variables in a multiple regression model are highly correlated (usually α ≥0.80). It means that one variable can be linearly predicted from the other(s) with a non-trivial degree of accuracy. This would lead to the conclusion that some variables are measuring the same thing and only one of them may be necessary. With low inter-correlations in the present data set, estimates of coefficients of regression, correlation, and determination are neither biased nor over-inflated.

Table 9.1a - Correlations among all Variables

#	Variable	Mean	Std. Dev	N	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Entrepreneurial Intention	4.245	0.867	432	-															
2	Feasibility	3.489	0.916	432	.477**	-														
3	Desirability	4.212	0.871	432	.590**	.552**	-													
4	Age	25.900	6.254	429	-0.010	.098**	-0.004	-												
5	Gender	0.581	0.494	427	.085*	.109**	.087*	.179**	-											
6	UniversityType-Private/ Public	0.560	0.496	431	.081*	-.077*	0.036	-0.034	0.040	-										
7	DegreeType- Business or not	0.520	0.500	432	0.004	0.001	0.017	-0.024	-0.063	.159**	-									
8	AchievementNeed	4.248	0.832	431	.260**	.223**	.292**	0.025	-0.054	0.024	-0.012	-								
9	LocusOfControl	4.232	0.780	429	.309**	.256**	.271**	0.032	-.092**	-.079*	-.069*	.463**	-							
10	RiskTakingPropensity	3.735	0.833	428	.324**	.292**	.318**	-0.007	0.046	0.042	0.016	.285**	.315**	-						
11	PriorEntrepreneurialExposure	1.517	0.606	427	.141**	.267**	.134**	.119**	-0.037	-.246**	-0.064	.127**	.138**	.166**	-					
12	Normative	3.663	1.006	426	.184**	.238**	.215**	-0.014	0.021	-0.065	-.120**	.163**	.172**	.109**	.069*	-				
13	Regulatory	2.440	0.907	428	0.042	.116**	0.011	0.035	0.020	-.079*	-.093**	-0.049	-0.015	-0.052	-0.015	.211**	-			
14	Cognitive	2.530	1.005	432	0.021	.190**	0.010	0.002	-0.024	-.176**	-0.064	-0.020	0.045	-0.035	0.063	.286**	.329**	-		
15	PerceivedLearning	4.190	0.815	431	.376**	.379**	.362**	0.053	0.001	-0.044	-0.040	.369**	.376**	.231**	.142**	.275**	.099*	.120*	-	
16	PracticalApproaches	3.060	1.137	427	.243**	.294**	.237**	0.001	.106*	-0.078	-0.023	.163**	.152**	.172**	0.091	.301**	.161**	.216**	.443**	-
17	AccesstoResources	3.221	0.931	429	.189**	.269**	.145**	0.004	0.063	-0.078	-0.039	.192**	.184**	.229**	.094*	.312**	.148**	.145**	.431**	.579**

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

Results of the qualitative research in chapter 8 confirmed the proposed conceptual model. Based on the variables in Table 9.1a, the subsequent sections report and discuss the results after quantitatively testing for validity of the model (Figure 9.1).

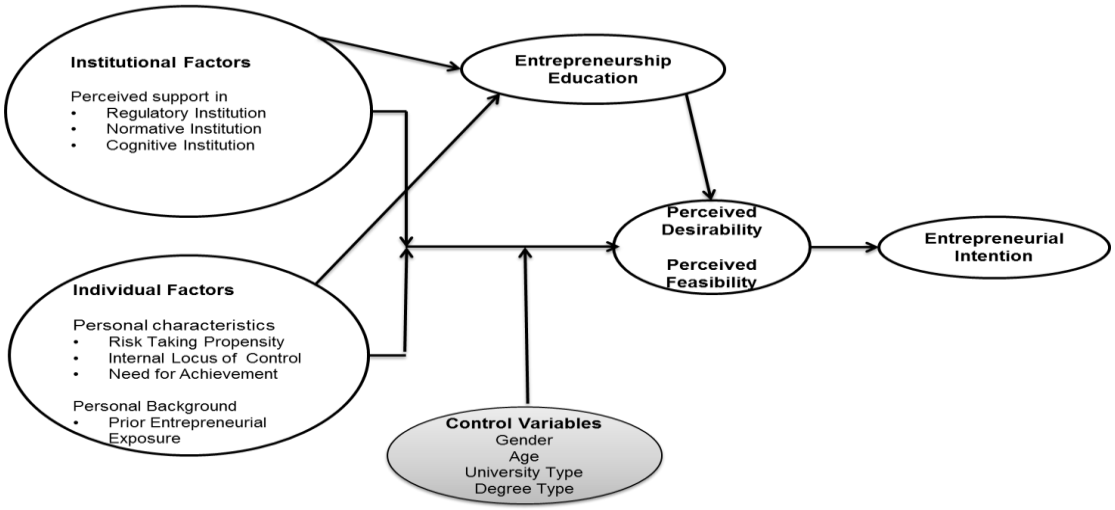


Figure 9.1 - Quantitatively Tested Model for the Intervening Role of EE

Statistical Analyses - Rationale and Implication of Multiple Variables

The rationale for inclusion of variables at individual and institutional levels to explore the influences on perceptions of feasibility and desirability of entrepreneurship is discussed in Chapter 6 and the operationalisation of the relevant constructs and assessment of their validity and reliability is covered in chapter 7 sections 7.5 to 7.6. From the perspective of statistical analysis, when multiple antecedents are involved, the rationale is that a combination of multiple relevant independent variables would improve understanding of the influences on the dependent variable i.e. perceptions of feasibility and desirability of entrepreneurship (Caliendo, 2013). This is because multiple regression helps to quantify the impact each independent variables has on the dependent variable (based on regression coefficients, 'b', and their significance). In addition multiple regression analysis also helps to show the degree to which the combined influence of the independent variables account for the variation of the dependent variable (based on multiple correlation coefficient, R, and coefficient of multiple determination, R^2).

Omitted Variable Bias

One of the internal validity problems with regression analysis based on cross-sectional data occurs when omitted variables affect the relationship between the dependent variable and the included independent variables (Clarke, 2005; Nikolova and Simroth, 2013). By definition an estimator (a statistic) is consistent and unbiased if it converges in probability to the correct population value (parameter) as the sample size grows (Wooldridge, 2012; Wooldridge, 2010). The challenge of specifying a theoretical model is that it is practically impossible to include every variable. This may be because the relevant variables do not exist in the database being used (Bono and McNamara, 2011). Moreover, researchers may be unaware that they are omitting an important variable (Leightner and Inoue, 2012). Therefore, careful attention to the inclusion of key variables during the design stage can mitigate the problem of omitted variable bias (Bono and McNamara, 2011). However, research can err on the side of too few or too many variables. For this reason, some statisticians forthrightly argue that regression equations based on a few variables are simply more accurate than regression equations based on many variables (Breiman, 1992). In fact, prior empirical research indicates that sometimes inclusion of irrelevant variables may produce inefficient coefficient estimates. This may increase the bias (Clarke, 2005) .

Rationale for Control Variables for the Current Study

Prior empirical research in developed countries indicates that demographic variables such as gender and age (BarNir et al., 2011; Henley, 2007; Verheul et al., 2012) and non-demographic variables such as university type and degree type (Levenburg et al., 2006; Luethje and Franke, 2004; Lüthje and Franke, 2003; Martínez et al., 2010; Robinson and Sexton, 1994) have an influence on EI because they are likely to affect perceptions that entrepreneurship is feasible and

valuable. As a result, these variables were taken into account in the current study as control variables when the effects of the hypothesised individual and institutional factors on EI were assessed.

9.2 Regression Tests for the Entrepreneurial Intention Model

This section reports regression analyses results for tests of the basic EI model. EI is critical to business start-up because it represents the state of mind that precedes action (Shook et al., 2003; Thompson, 2009). In all the simple and multiple regression analyses performed in the current study, low variance inflation factors (VIF<5) further confirm that multicollinearity is not a concern (Burns and Burns, 2008; Hair et al., 2006; Pallant, 2010; Wang and Ahmed, 2009). This entails that estimates of coefficients of regression, correlation, and determination are neither biased nor over-inflated. Table 9.1b reflects the actual signs indicating direction of influence for regression coefficients. The discussion and interpretation of regression results in the next subsections indicates that the influence of control and independent variables on the dependent variables is in line with what has been hypothesised.

Table 9.1b - Regression Coefficient Signs

#	Variable	EI	Feasibility	Desirability
1	Entrepreneurial Intention			
2	Feasibility	+		
3	Desirability	+		
4	Age		+	-
5	Gender		+	+
6	UniversityType-Private/ Public		-	+
7	DegreeType- Business or not		+	+
8	AchievementNeed		+	+
9	LocusOfControl		+	+
10	RiskTakingPropensity		+	+
11	PriorEntrepreneurialExposure		+	+
12	Normative		+	+
13	Regulatory		+	+
14	Cognitive		+	+

Subsection 9.2.1 reports results of the effects of feasibility and desirability on EI. Subsection 9.2.2 reports results of independent and control variables' effects on feasibility and desirability.

9.2.1 Effects of Perceived Feasibility and Desirability on EI

Table 9.2 reports the results of hierarchical multiple regression analyses examining the unique and combined effects of perceived feasibility and desirability of entrepreneurship on EI. Model 1 reports the effect of feasibility on EI. Model 2 reports the combined influence of feasibility and desirability on EI. All the regression coefficients are in the expected direction (see Table 9.1b)

Table 9.2 - Regression Analyses for Attitudinal Antecedents' Influences on EI

Variables	Model1 B(1), SE(1)	Model2 B(2), SE(2)
Feasibility	0.463**, 0.041	0.214**, 0.045
Desirability		0.472**,0.047
F	125.094**	128.094**
F change	125.094**	102.653**
R	0.477	0.615
R sq	0.227	0.378
R sq adjusted	0.226	0.375
R sq change	0.227	0.151
df 1=1, 2, df2=?	431	429
Constant,SE	2.574**,0.155	1.466**,0.177
	** signifcant at p<0.01	Note: All t values >2

As reflected in Table 9.2, the adjusted R squared (coefficient of determination) is significantly different from zero in both models. Overall, 37.5 percent of the variation of EI is explained by the combined effect of perceived feasibility and desirability. Furthermore, both attitudinal antecedents uniquely and significantly contribute to the prediction of EI ($p<0.01$). Specifically, perceived feasibility has a significant effect on EI with a correlation coefficient of 0.477. The introduction of desirability results in a sharp increase from 0.477 to a multiple correlation coefficient of 0.615. This means that an individual with higher perceived feasibility and desirability of entrepreneurship has higher EI. In other words, an increase in

desirability and feasibility is associated with an increase in the level of intention to start a business. Therefore, to increase EI, factors that influence perceived feasibility and desirability of entrepreneurship should be considered. This result is consistent with prior research that desirability and feasibility are the immediate antecedents of EI (Fitzsimmons and Douglas, 2011; Krueger JR et al., 2000; Liñán and Chen, 2009; Liñán et al., 2011a).

9.2.2 Determinants of Feasibility and Desirability

Extant literature indicates that there is little knowledge about the determinants of perceived feasibility and desirability of entrepreneurship (Davidsson, 2004; Schlaegel and Koenig, 2014). This subsection addresses this issue by examining effects of individual and institutional factors on attitudinal antecedents of EI.

9.2.2.1 Effects of Institutional and Individual Factors on Perceived Feasibility

Table 9.3 reports the results of hierarchical multiple regression analyses executed to determine the single and combined effects of control variables, individual and institutional factors on perceived feasibility of entrepreneurship. All the regression coefficients for independent and control variables are in the expected direction (see Table 9.1b).

Table 9.3 - Regression Analyses for Influences on Feasibility

Variables	**Model1**	**Model2**	**Model3**
	B(1), SE(1)	B(2), SE(2)	B(3), SE(3)
Control Variables			
Age	0.014*, 0.007	0.011, 0.006	0.011, 0.006
gender	0.185**, 0.064	0.224**,0.060	0.210**,0.059
UniveristyType	-0.022*, 0.090	-0.023, 0.086	-0.052,0.084
DegreeType	0.057, 0.090	0.037, 0.084	0.061,0.082
Individual Factors			
Need for Achievement		0.149*,0.060	0.156**,0.058
Locus of Control		0.164**,0.043	0.143**,0.042
Risk taking		0.204**,0.038	0.219**,0.053
PriorEntExposure		0.300**,0.051	0.289**,0.049
Institutional Factors			
Normative			0.115**,0.030
Regulatory			0.070*,0.033
Cognitive			0.118**,0.031
F	2.258*	22.969**	21.189**
F change	2.258*	39.728**	14.585**
R	0.147	0.428	0.487
R sq	0.025	0.183	0.238
R sq adjusted	0.020	0.175	0.226
R sq change	0.025	0.158	0.055
df 1=4, 8,11, df2=?	432	431	430
	* significant at p<0.05; ** signifcant at p<0.01		

Firstly, Model 1 reports the base model only with control variables. The control variables have a combined marginal but significant effect on feasibility with an adjusted R^2 of 2.0% and multiple correlation coefficient of 0.147. While degree type does not have a significant effect, gender ($p<0.01$), age ($p<0.05$), and university type ($p<0.05$) each has a significant effect. For degree type, the rationale for a positive regression coefficient is that prior research indicates that an understanding of business and its rewards increases perceptions that managing a business is possible. Thus business degree students are expected to have higher perception of feasibility (Martinez et al., 2010; BarNir et al., 2011).The result for gender entails that males generally have higher perceived feasibility of entrepreneurship than females. In relation to entrepreneurship, prior research indicates that one explanation for low interest and self-efficacy is that women have less early career experience or social support and fewer role models than their male counterparts (BarNir et al., 2011; Dyer, 1994; Hisrich and Brush, 1985; Scherer et al., 1990; Shinnar et al., 2012; Siu and Lo, 2013). Age has a significant effect on perceived feasibility possibly because of two reasons i.e. employment experience and self-employment experience. Based on Analysis of Variance (ANOVA) tests (see Appendices 9.2, 9.3, 9.4 and 9.5), post-hoc checks indicate that older respondents have significantly ($p\leq0.05$) more employment and self-employment experience than the younger respondents (Appendix 9.5). This explanation is plausible because prior research, in the context of UK, indicates that while desirability and EI may be higher among the younger and educated individuals, the young may lack resources, skills and experience and hence their perceived feasibility is likely to be lower (Henley, 2007).

Related to age, respondents from public universities have lower perceived feasibility than those from private universities. This is possibly because of two

related reasons. Firstly, compared to students at private universities (coded 0), most students at public universities (coded 1) are generally younger. This is because they enter tertiary education earlier i.e. a year after completing secondary education. Secondly, because of the age difference, public university students have less employment and self-employment experience (Appendices 9.1, 9.3, 9.4 and 9.5). This is corroborated further by chi-square tests indicating a significant association between age and type of university, X^2 (df=3,n=432)=12.368,p=0.004, Cramer's V=0.124. This result is expected in Zambia because students who complete secondary education first compete for a place in public universities where government bursaries are available. Unsuccessful applicants usually delay entry into tertiary education due to challenges of school fees. Such school leavers, assuming they are still interested in tertiary education, either wait for their guardians or they themselves engage in viable activities to raise the required funds. This delay entails that students at private universities, compared to those at public universities, are generally older.

In relation to age and university type, the change from significant to insignificant for the regression coefficients when individual factors and later institutional factors are introduced may mean that the explanatory power of age and university type diminishes when other variables at individual and institutional levels are considered.

Secondly, when the individual factors are introduced in the regression (Model 2), a significant additional overall effect on feasibility occurs (from 2% to 17.5% i.e. $R^2 \Delta$ =15.5%). Each individual factor, i.e. need for achievement (NAch), internal locus of control (ILC), risk taking propensity (RTP) and prior entrepreneurial exposure (PEE), has a significant ($p<0.01$) positive effect on feasibility. The combined multiple correlation coefficient with feasibility has increased sharply in model 2

(from R=0.147 to 0.428). This means that individuals with higher NAch, ILC, RTP and PEE have higher perceived feasibility of entrepreneurship.

Thirdly, when institutional factors are introduced (Model 3), a significant additional overall effect on feasibility occurs (from 17.5% to 22.6% i.e. R^2 Δ=5.5%). The significant multiple correlation coefficient increases from R=0.428 to R=0.487. Among the institutional factors, normative (p<0.01), cognitive (p<0.01) and regulatory (p<0.05) institutions have significant and positive effects on feasibility. This means that favourable normative, cognitive, and regulatory institutions increase perceived feasibility of entrepreneurship among potential entrepreneurs.

9.2.2.2 Effects of Individual and Institutional Factors on Perceived Desirability

Table 9.4 reports results of hierarchical multiple regression analyses examining the single and combined effects of control variables, individual and institutional factors on perceived desirability of entrepreneurship. All the regression coefficients for independent and control variables are in the expected direction (see Table 9.1b).

Table 9.4 - Regression Analyses for Influences on Desirability

Variables	Model1 B(1), SE(1)	Model2 B(2), SE(2)	Model3 B(3), SE(3)
Control Variables			
Age	-0.012, 0.006	-0.015**, 0.006	-0.015*, 0.006
gender	0.246**, 0.086	0.237**,0.079	0.237**,0.079
UniveristyType	0.062, 0.062	0.085, 0.080	0.097,0.080
DegreeType	0.004, 0.086	0.011, 0.078	0.018,0.078
Individual Factors			
Need for Achievement		0.174**,0.038	0.159**,0.038
Locus of Control		0.147**,0.042	0.133**,0.041
Risk taking		0.218**,0.036	0.212**,0.036
PriorEntExposure		0.116*,0.048	0.111*,0.048
Institutional Factors			
Normative			0.130**,0.030
Regulatory			0.054,0.045
Cognitive			0.016, 0.042
F	2.716*	12.644**	10.567**
F change	2.716*	22.015**	4.225**
R	0.161	0.447	0.473
R sq	0.026	0.199	0.224
R sq adjusted	0.016	0.184	0.203
R sq change	0.026	0.174	0.024
df 1=4, 8,11, df2=?	432	431	430
	* significant at p<0.05; ** signifcant at p<0.01		

Firstly, Model 1 reports the base model only with control variables. The control variables have a combined marginal but significant effect on desirability with an adjusted R^2 of 1.6%. However, only gender has a significant effect ($p<0.05$). Age, university type, and degree type do not have a significant unique effect. The control variables' overall combined effect is small but significant ($R = 0.161$; $p \leq 0.05$). In relation to gender, the results mean that males, compared to females, have higher perceived desirability of entrepreneurship, a finding that is consistent with prior research; the explanation is that males have more role models as well as social support for entrepreneurship (Verheul et al., 2012).

For degree type, the rationale for a positive regression coefficient is that prior research indicates that an understanding of business and its rewards increases perceptions that managing a business is attractive. Thus business degree students are expected to have higher perceptions of desirability (Martinez et al., 2010; BarNir et al., 2011). Related to university type, respondents from public universities are expected to have higher perceived desirability than those from private universities). This is because, compared to students at private universities (coded 0), most students at public universities (coded 1) are generally younger. The reason is that they enter tertiary education earlier i.e. a year after completing secondary education. This is corroborated further by chi-square tests indicating a significant association between age and type of university, X^2 $(df=3,n=432)=12.368,p=0.004$, Cramer's $V=0.124$. This result is expected in Zambia because students who complete secondary education first compete for a place in public universities where government bursaries are available. Unsuccessful applicants usually delay entry into tertiary education due to challenges of school fees. Such school leavers, assuming they are still interested in tertiary education, either wait for their guardians or they themselves engage in

viable activities to raise the required funds. This delay entails that students at private universities, compared to those at public universities, are generally older. Prior research indicates that younger people often have higher desirability of entrepreneurship. This is because entrepreneurship involves uncertainty which the older individuals are reluctant to embrace (Henley, 2007).

In relation to age, the change from insignificant to significant for the regression coefficients when individual factors and later institutional factors are introduced indicates that the explanatory power of age increases when considered at the same time as factors at individual and institutional levels. In this case, with an increase in age, perceptions of desirability of entrepreneurship decrease for two possible reasons. First, the older individuals, compared to the younger, are less likely to be attracted to entrepreneurship because of the uncertainty concern (Henley, 2007). Second, as indicated earlier, older individuals are not only more likely to be in employment but they are also more likely to have family commitments (CSO, 2013). This entails that older individuals face higher social pressure not to engage in activities that are fraught with uncertainty such as starting a business (Kennedy et al., 2003). This is especially relevant in a collectivistic society such as Zambia.

Secondly, when the individual factors are introduced in the regression (Model 2), a significant additional overall effect on desirability occurs (from 1.6% to 18.4% i.e. R^2 Δ = 16.8%). Each individual factor, that is, NAch ($p<0.01$), ILC ($p<0.01$), RTP ($p<0.01$) and PEE ($p<0.05$), has a significant positive effect on desirability. The combined effect for predictor variables has increased exponentially to 44.7% (R). These results mean that high NAch, ILC, RTP and PEE lead to high perceived desirability of entrepreneurship.

Thirdly, when institutional factors are introduced in the regression (Model 3), a significant additional overall effect on desirability occurs (from 18.4% to 20.3% i.e. R^2 Δ=1.9 %). Among the institutional factors, only normative institution has a significant positive contribution ($p<0.01$); cognitive and regulatory institutions have positive but insignificant effects on desirability. The combined effect for predictor variables has increased from 44.7% to 47.3% (R).

9.2.2.3 Summary on Determinants of Feasibility and Desirability

Overall, based on the results of regression analyses, EI is parsimoniously a function of perceived feasibility and desirability of entrepreneurship (Ajzen, 1991; Shapero and Sokol, 1982). Individual and institutional factors influence EI via perceived feasibility and desirability of entrepreneurship, an aspect of research that has a shortage of empirical evidence in extant literature (Fayolle and Liñán, 2014; Schlaegel and Koenig, 2014; Rideout and Gray, 2013).

These findings are also in line with qualitative research results discussed in chapter 8 section 8.1.1 and section 8.1.2. In section 8.1.1, the interviewees explain that perceived support in the regulatory and normative institutions as well as shared information in the cognitive institution help to reduce barriers, increase the likelihood of support from stakeholders and therefore increase the perception that business start-up is achievable. In addition, perceived support in the three institutions signals to would-be entrepreneurs that entrepreneurship is important and valuable for both individuals and the society. Therefore, favourable institutions positively influence the intention to start a business. The findings show that institutions have an impact at micro level because they influence EI through their effects on perceived feasibility and desirability of entrepreneurship, an aspect of research that is lacking in the extant literature (Fayolle and Liñán, 2014).

In section 8.1.2, the interviewees explain that individuals are different in personality, abilities, interests and background. Individuals with characteristics and backgrounds aligned with the requirements of entrepreneurial tasks and activities are more likely to find entrepreneurship attractive and viable. Therefore, individuals with high NAch, RTP, ILC and PEE are more likely to start a business. The results are consistent with prior research that PEE has a significant indirect effect on EI through its influence on perceived feasibility and desirability (BarNir et al., 2011; Carr and Sequeira, 2007; Guerrero et al., 2008; Krueger, 1993; Verheul et al., 2012). However, in extant literature, there is a shortage of empirical evidence in relation to the effect of RTP, ILC and NAch on EI via desirability and feasibility (Frank et al., 2007; Lüthje and Franke, 2003; Segal et al., 2005).

9.3. Statistical Mediation Analyses

The empirical evidence in the preceding section supports the basic EI model that, parsimoniously, individual and institutional factors influence EI through their effects on perceived feasibility and desirability of entrepreneurship (Fitzsimmons and Douglas, 2011; Ajzen 1991; Ajzen, 2011; Shapero and Sokol, 1982). This section discusses contemporary procedures for examining the mediating role of EE on the effects of individual and institutional factors on perceived feasibility and desirability. The choice of mediation analysis is based on the general thesis developed in the conceptual framework in Chapter 6 that individual and institutional factors also influence effectiveness of EE. Mastery of entrepreneurship knowledge and skills through EE then positively influences perceived feasibility and desirability of entrepreneurship (see Figure 9.1 in section 9.1). Therefore, this section explains the concept of mediation and outlines its procedures based on contemporary guidelines in the literature.

The Concept of Mediation

The outcome of empirical research is more helpful to stakeholders' understanding of the research problem if it establishes not only whether X affects Y but also how and when that relationship holds (Baron and Kenny, 1986; James and Brett, 1984; Judd and Kenny, 1981a; Judd and Kenny, 1981b). Statistical mediation analysis helps researchers to understand the different paths or mechanisms through which an independent variable transmits its effect to a dependent variable (Hayes, 2013; Jose, 2013; Judd and Kenny, 2010; Kenny, 2008; MacKinnon et al., 2012; Morera and Castro, 2013; Rucker et al., 2011; Wood et al., 2008).

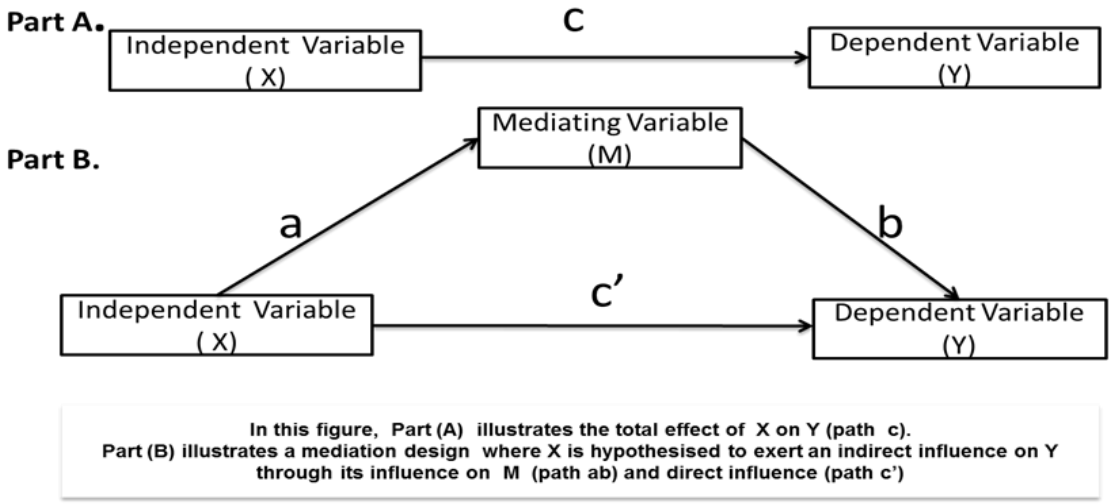


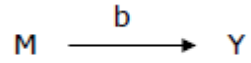
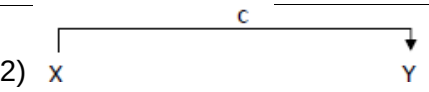
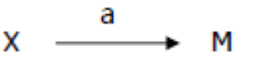
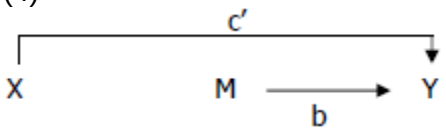
Figure 9.2 - The Concept of Mediation

Clearly, from Figure 9.2, mediation analysis is important because it identifies the process of transmission of an independent variable X's effect on the dependent variable Y. Specifically, the impact of X on Y may be exerted via two routes i.e. a direct effect (path c') and indirect effect (path ab) through a mediator variable (M). Thus, mediation analysis provides a more detailed understanding of relationships among variables (MacKinnon and Fairchild, 2009). To conduct mediation analysis, a minimum sample size of 74 respondents is usually required (Fritz and Mackinnon, 2007; Mackinnon et al., 2012; Shrout and Bolger, 2002).

9.3.1 Statistical Mediation Analyses Procedures

There are several approaches to testing mediation (for comprehensive review see Mackinnon et al., 2002 and Wood et al., 2008). However, the Baron and Kenny's (1986) causal steps approach is the most widely used. In this approach, several regression analyses are undertaken and significance of the regression coefficients is examined. Table 9.5 shows the contemporary steps for regression-based mediation analyses.

Table 9.5 - Statistical Mediation Analyses Procedures

Step	Analysis	Equation or Visual Depiction
Step 1	Simple regression analysis with M predicting Y to test the significance of path b $Y=i_1+bM+e_Y$	(1) 
Step 2	Simple regression analysis with X predicting Y for path c (total effect), $Y=i_2+cX+e_Y$	
Step 3	Simple regression analysis with X predicting M for path a, $M=i_3+aX+e_M$	(3) 
Step 4	Multiple regression analysis with X and M predicting Y to estimate path c' (direct path) and b, $Y=i_4+c'X+bM+e_Y$	(4) 
Step 5	Test significance of the indirect effect , a X b=ab (i.e. ab=c-c') by conducting Sobel's Z test or/and the contemporary more powerful tests for the indirect path (i.e. bootstrap or Monte Carlo confidence intervals)	(5) $z = \frac{a \times b}{\sqrt{b^2 s_a^2 + a^2 s_b^2}}$

Source: Kenny and Baron (1986); Zhao et al. (2010); Rucker et al., (2011); Hayes (2013); and, Jose (2013)

MacKinnon et al. (2002) categorised the regression-based tests of mediation into three groups:

- Causal steps approach requires that a, b, c (steps 2, 3, 4) be significant and c' insignificant for full mediation. Exceptions are made for significant c' in partial mediation (Kenny and Judd, 1981; James and Brett, 1984; Baron and Kenny, 1986);

- Difference in coefficients tests i.e. **c-c'** divided by the standard error of the difference (Kenny and Judd, 1981). This value is then compared against a t distribution to test for significance; and,

- Product of coefficients tests (steps 3, 4, and 5**)** i.e. **a** X **b** divided by standard error of the product (Sobel, 1982). This value is then compared against a normal distribution to test for significance.

The causal steps approach has been the most widely used. In fact, 70.90% of prior studies examining mediation have employed this approach (Fritz and MacKinnon, 2007). However, based on recent empirical research, this approach is inadequate for two major reasons. Firstly, it emphasises the need for significant total effect (path c) and insignificant direct effect i.e. path c' (MacKinnon et al., 2012; Shrout and Bolger, 2002). Secondly, it does not really test the significance of the compound pathway (path **ab**). Consequently, it is more prone to type II errors i.e. it tends to miss some true mediation effects (MacKinnon et al., 2007). Therefore, the preferable approaches calculate the indirect effect (path ab) and test it for significance (Zhao et al., 2010). MacKinnon et al. (1995) shows that difference in coefficients and product of coefficients yield identical values (c-c' = ab) as long as unstandardized coefficients are used for ordinary least squares regression. Furthermore, a variation on the product-of-coefficients test uses resampling. If many samples are taken from the original sample, with replacement, the parameter of interest (indirect effect path ab) can be calculated for each new sample. This forms a bootstrap distribution of that parameter, and confidence intervals can be formed to test for mediation (Hayes, 2009; MacKinnon, 2007; MacKinnon et al., 2002; Taylor et al., 2008; Wu and Zumbo, 2008; Zhao et al., 2010b).

9.4 The Mediating Role of Entrepreneurship Education

EI theories posit that individual and contextual factors influence EI through their effects on perceived feasibility and desirability of entrepreneurship (Ajzen, 1991; Ajzen, 2002; Ajzen, 2011b; Fitzsimmons and Douglas, 2011; Liñán et al., 2011a; Shapero and Sokol, 1982). Based on empirical data from the current study, these claims are supported as reported in section 9.2, subsections 9.2.1 and 9.2.2. This section reports the results of analyses examining the mediating role of EE on the effects of individual and institutional factors on perceived feasibility and desirability.

9.4.1 EE Mediating the Effects of Institutions on Feasibility and Desirability

This subsection examines the mediating role of EE on the effects of institutional factors on perceived feasibility and desirability of entrepreneurship. In the mediational analyses, the dependent variables are feasibility and desirability. The independent variables are institutional factors i.e. normative, cognitive and regulatory institutions. The three mediator variables reflect perceptions of effectiveness of EE i.e. perceived learning from the module, perceived practical approaches (experiential learning) and perceived access/utilisation of relevant resources during EE. Table 9.6 reports an example of detailed analyses executed.

Table 9.6 - EE Mediating the Influence of Normative Institution on Feasibility

Model	Models 1 & 2 Dependent Variable= Feasibility	Mediator: Perceived Learning				Mediator: Practical Approaches				Mediator:Access to Resources			
		Model assessments (1)				Model assessments (2)				Model assessments (3)			
	Variables	B(1)	t (1)	Sig. (1)	F (sig), R, R sq, Rsq adj.	B(2)	t (2)	Sig.(2)	F (sig), R, R sq, R sq adj.	B(3)	t (3)	Sig. (3)	F (sig), R, R sq, R sq adj
1	(Constant)	2.694	16.964	0.000	F=26.933 (p=0.000)	2.694	16.907	0.000	F=26.752(p=0.000)	2.694	16.907	0.000	F=26.752(p=0.000)
	Normative(c)	0.217	5.190	0.000	R=0.238, Rsq=0.057 Rsq adj=0.055	0.217	5.172	0.000	R=0.238, Rsq=0.057 Rsq adj=0.055	0.217	5.172	0.000	R=0.238, Rsq=0.057 Rsq adj=0.055
2	(Constant)	1.411	6.217	0.000	F=43.404 (p=0.000)	2.337	13.795	0.000	F=27.738(p=0.000)	2.237	12.037	0.000	F=24.224(p=0.000)
	Normative(c')	0.132	3.219	0.001	FΔ (56.529, p=0.000)	0.150	3.510	0.000	FΔ (27.148, p=0.000)	0.156	3.605	0.000	FΔ (20.520, p=0.000)
	Mediator (b)	0.380	7.519	0.000	R=0.404, Rsq=0.163 Rsq adj=0.159	0.197	5.210	0.000	R=0.334, Rsq=0.111 Rsq adj=0.107	0.212	4.530	0.000	R=0.314, Rsq=0.099 Rsq adj=0.095
3	(Constant)	3.372	24.109	0.000	F=36.787 (p=0.000)	1.815	9.349	0.000	F=44.221(p=0.000)	2.162	13.647	0.000	F=48.044(p=0.000)
	Normative(a)	0.223	6.065	0.000	R=0.275, Rsq=0.076 Rsq adj=0.074	0.340	6.650	0.000	R=0.301, Rsq=0.090 Rsq adj=0.088	0.289	6.931	0.000	R=0.312, Rsq=0.098 Rsq adj=0.096
	Sobel test (ab)	B1	Z	Sig.		B2	Z	Sig.		B3	Z	Sig.	
	Mediation	0.086	4.146	0.000		0.068	3.696	0.000		0.063	3.349	0.001	
	Type (abc')	0.01	complementary			0.010	complementary			0.010	complementary		

In Table 9.6, perceived feasibility is the dependent variable (Y) and normative institution is the independent variable (X). Accordingly, Model 1 and Model 2 have perceived feasibility as the dependent variable. Firstly, Model 1 examines the effect of normative institution on feasibility i.e. total effect (path c). Secondly, Model 2 introduces the mediator variables (perceived learning for column 2, practical approaches for column 3, access to resources for column 4). This examines the mediator's effect (path b) and the independent variable's direct effect (path c') on the dependent variable. Thirdly, Model 3 shows the effect of the independent variable on the mediators (perceived learning for column 2, practical approaches for column 3, access to resources for column 4). This examines the effect of the independent variable, i.e. normative institution, on the mediator (path a). Fourthly, the bottom row in Table 9.6 reports the results of Sobel's Z test for significance of the indirect effect (path ab). Where the Sobel test result is not significant, the more powerful (bootstrapping) 95% confidence interval results are considered to reduce type II error (Naylor et al., 2012; Zhao et al., 2010; Mackinnon et al., 2007). Lastly, where the direct effect (path c') is significant, the

sign for the product of the three coefficients abc' determines the type of mediation (Baron and Kenny, 1986; Zhao et al. 2010).

Consistent with the steps illustrated in Table 9.6, the results for perceptions of effectiveness of EE as possible mediators for each institutional factor's effects on feasibility and desirability are reported in the Appendices. Appendix 9.6 for normative institution, Appendices 9.7 and 9.8 for cognitive institution as well as Appendices 9.9 and 9.10 for regulatory institution. Table 9.7 reports the summary of regression coefficients and their tests of significance in line with hypothesised mediational relationships for each institutional factor.

Table 9.7 - Summary of Results for EE Mediating Institutional Factors' Effects on Attitudes

Model	Independent Variable	Mediating Variable	Dependent Variable	Total effect (c)	Direct effect (c')	Unique Effect of Mediator (b)	Effect of IV on Mediator (a)	Indirect effect (ab)	Type of Mediation
1	Normative	Learning	Feasibility	0.217**	0.132**	0.380**	0.223**	0.086**	Complementary
2	Normative	Practical Approaches	Feasibility	0.217**	0.150**	0.197**	0.340**	0.068**	Complementary
3	Normative	Access to Resources	Feasibility	0.217**	0.156**	0.212**	0.289**	0.063**	Complementary
4	Normative	Learning	Desirability	0.186**	0.108**	0.350**	0.223**	0.075**	Complementary
5	Normative	Practical Approaches	Desirability	0.186**	0.137**	0.145**	0.340**	0.047**	Complementary
6	Normative	Access to Resources	Desirability	0.186**	0.163**	0.080	0.289**	0.022	Direct only Non-mediation
7	Cognitive	Learning	Feasibility	0.173**	0.134**	0.406**	0.097*	0.041*	Complementary
8	Cognitive	Practical Approaches	Feasibility	0.173**	0.121**	0.214**	0.245**	0.054**	Complementary
9	Cognitive	Access to Resources	Feasibility	0.173**	0.141**	0.242**	0.134**	0.034*	Complementary
10	Cognitive	Learning	Desirability	0.009	-0.029	0.391**	0.097*	0.039*	Indirect only mediation
11	Cognitive	Practical Approaches	Desirability	0.009	-0.037	0.188**	0.245**	0.047**	Indirect only mediation
12	Cognitive	Access to Resources	Desirability	0.009	-0.010	0.137**	0.134**	0.019*	Indirect only mediation
13	Regulatory	Learning	Feasibility	0.117*	0.080	0.417**	0.089*	0.037*	Indirect only mediation
14	Regulatory	Practical Approaches	Feasibility	0.117*	0.071	0.228**	0.202**	0.046**	Indirect only mediation
15	Regulatory	Access to Resources	Feasibility	0.117*	0.079	0.253**	0.152**	0.038**	Indirect only mediation
16	Regulatory	Learning	Desirability	0.011	-0.024	0.389**	0.089*	0.033*	Indirect only mediation
17	Regulatory	Practical Approaches	Desirability	0.011	-0.027	0.185**	0.202**	0.035**	Indirect only mediation
18	Regulatory	Access to Resources	Desirability	0.011	-0.010	0.137**	0.152**	0.021*	Indirect only mediation

Note: ** significant at 0.01 level * significant at 0.05 level

9.4.1.1 Normative Institution's Effects on Feasibility and Desirability Mediated by EE

Firstly, Table 9.7 reports that the indirect effect (path ab) of the normative institution on perceived feasibility, through its influence on perceptions of effectiveness of EE, is positive and significant. This is supported by all three

mediational statistics for the product of coefficients (ab): perceived learning (ab=0.086**, Z=4.146, p=0.000), perceived practical approaches (ab=0.068**, Z=3.696, p=0.000), and perceived access to resources (ab=0.063**, Z=3.349, p=0.001). This is a consequence of the normative institution's effect on perceived learning, perceived practical approaches and perceived access to resources, which in turn influence perceived feasibility. Since the direct effect paths (c') are significant ($p<0.01$), the type of mediation is complementary i.e. both the indirect paths and direct paths are significantly positive.

Furthermore, Table 9.7 reports that the indirect effect (ab) of the normative institution on perceived desirability, through its influence on perceptions of effectiveness of EE, is positive but only significant for perceived learning and practical approaches. This is corroborated by the mediational statistics for the product of coefficients (ab): perceived learning (ab=0.075**, Z=3.761, p=0.000), practical approaches (ab=0.047**, Z=3.067, p=0.002), and access to resources (ab=0.022, Z=1.541, p=0.123). This is a result of the normative institution's effect on perceived learning, practical approaches and access to resources, which in turn influence desirability. Since all the direct effect paths (c') are significant ($p<0.01$), the type of mediation is complementary for perceived learning and practical approaches i.e. both the mediational paths and direct paths are positive and significant. However, for access to resources, while the mediational path is insignificant, the direct path is positive and significant, which means the mediation effect does not exist in this case.

9.4.1.2 Cognitive Institution's Effects on Feasibility and Desirability Mediated by EE

Secondly, Table 9.7 reports that the indirect effect (path ab) of the cognitive institution on feasibility, through its effect on perceptions of effectiveness of EE, is

positive and significant. This is substantiated by all three mediational statistics for the product of coefficients (ab): perceived learning (ab=0.041*, Z=2.429, p=0.015), practical approaches (ab=0.054**, Z=3.311, p=0.001), and access to resources (ab=0.034*, Z=2.431, p=0.015). This is a consequence of the cognitive institution's effect on perceived learning, practical approaches and access to resources, which then influence perceived feasibility. Since the direct effect paths (c') are significant (p<0.01), the type of mediation is complementary i.e. both the mediational paths and direct paths are positive and significant.

Furthermore, Table 9.7 reports that the indirect effect (path ab) of the cognitive institution on desirability of entrepreneurship, through its effect on perceptions of effectiveness of EE, is positive and significant. This is validated by the mediational statistics for the product of coefficients (ab): perceived learning (ab=0.039*, Z=2.373, p=0.018), practical approaches (ab=0.047**, Z=3.273, p=0.001), and access to resources (ab=0.019*, Z=2.020, p=0.043). This is a consequence of the cognitive institution's effect on perceived learning, practical approaches and access to resources, which in turn influence desirability. Since all the direct effect paths (c') are insignificant (for all three, p> 0.05), the type of mediation is indirect only i.e. while the mediational paths are positive and significant, direct effect paths are insignificant.

9.4.1.3 Regulatory Institution's Effects on Feasibility and Desirability Mediated by EE

Thirdly, Table 9.7 reports that the indirect effect (ab) of the regulatory institution on feasibility, through its effect on perceptions of effectiveness of EE, is positive and significant. This is validated by all three mediational statistics for the product of coefficients (ab): perceived learning (ab=0.037**, Z=2.015, p=0.044), practical approaches (ab=0.046**, Z=2.951, p=0.003), and access to resources

(ab=0.038**, Z=2.668, p=0.008). This is a consequence of the regulatory institution's effect on perceived learning, practical approaches and access to resources, which in turn influence perceived feasibility. Since the direct effect paths (c') are all insignificant (for all three, p>0.05), the type of mediation is indirect only i.e. while the mediational paths are significant, the direct paths are insignificant.

Furthermore, Table 9.7 reports that the indirect effect (ab) of the regulatory institution on desirability of entrepreneurship, through its influence on perceptions of effectiveness of EE, is positive and significant. This is corroborated by the significant mediational statistics for the product of coefficients (ab): perceived learning (ab=0.033*, Z=2.017, p=0.044), practical approaches (ab=0.035**, Z=2.791, p=0.005), and access to resources (ab=0.021*, Z=2.215, p=0.027). This is a result of the regulatory institution's effect on perceived learning, practical approaches and access to resources, which in turn influence desirability. Since all the direct effect paths (c') are insignificant (for all three, p>0.05), the type of mediation is indirect only i.e. while the mediational paths are positive and significant, direct paths are insignificant.

9.4.1.4 Summary of Mediating Role of EE on Institutions' Influences

The overall meaning of the preceding findings is that if potential entrepreneurs perceive that institutional factors are favourable, this positively influences perception of effectiveness of EE. Perception of mastery of entrepreneurship knowledge and skills through EE in turn influences perceived feasibility and desirability of new venture creation. Therefore, effectiveness of EE should be examined in the context of the entrepreneurial environment of the potential entrepreneurs. These findings are also consistent with qualitative research results discussed in section 8.2.1. The interviewees explain that favourable normative,

regulatory and cognitive institutions drive people to EE in two ways. Firstly, they promote the status of entrepreneurship in societies and secondly, through lowering of barriers, they influence people's mindset that business start-up is viable. Consequently, favourable institutions also affect the level of interest in EE. This influences attitudes and effort as well as the consequent performance in EE. Performance in EE is reflected in the level of entrepreneurship knowledge and skills acquired. Through clarifying the benefits of entrepreneurship and developing the required capabilities, EE then influences perception that business start-up is not only worthwhile but also possible. .

The findings show that institutions have an impact at micro level because they exert their influence on EI not only through perceived feasibility and desirability of entrepreneurship but also through their effects on EE, an aspect of research that is lacking in the extant literature (Bruton et al., 2010; De Clercq et al., 2011; Wicks, 2001). The GEM special report on entrepreneurship training (Martinez et al., 2010) observes that training doubles EI in developing countries (2.2 times) compared to developed countries (1.9 times). However, the gain in total early entrepreneurial activity (TEA) due to entrepreneurship training is higher in developed countries (2.1 times) than developing countries (1.5 times). The authors, without empirical evidence and testing, attribute the difference to more favourable entrepreneurship support mechanisms in developed countries than developing countries (see Appendices 9.19 and 9.20). The research findings generated from the current study can, to a certain extent, corroborate this perspective.

9.4.2 EE Mediating the Effects of Individual Factors on Feasibility and Desirability

This subsection examines the mediating role of EE on the effects of individual factors on perceived feasibility and desirability of entrepreneurship. In the

mediational analyses, the dependent variables are feasibility and desirability. The independent variables are individual factors: risk taking propensity (RTP), internal locus of control (ILC), need for achievement (NAch), and prior entrepreneurial exposure (PEE). The three mediator variables are perceptions of effectiveness of EE: perceived learning from the module, perceived practical approaches (experiential learning) and perceived access/utilisation of relevant resources. Consistent with the steps shown in Table 9.6, the detailed results for perceptions of effectiveness of EE as mediators for each individual factor are provided in the appendices. Appendices 9.11 and 9.12 for RTP, Appendices 9.13 and 9.14 for ILC, Appendices 9.15 and 9.16 for NAch, as well as Appendices 9.17 and 9.18 for PEE. Table 9.8 reports the summary of regression coefficients and their tests of significance in line with hypothesised mediational relationships for individual factors.

Table 9.8 - Summary of Results for EE Mediating Individual Factors' Effects on Attitudes

Model	Independent Variable	Mediating Variable	Dependent Variable	Total effect (c)	Direct effect (c')	Unique Effect of Mediator (b)	Effect of IV on Mediator (a)	Indirect effect (ab)	Type of Mediation
1	RiskTakingPro	Learning	Feasibility	0.321**	0.237**	0.369**	0.226**	0.078**	Complementary
2	RiskTakingPro	Practical Approaches	Feasibility	0.321**	0.273**	0.202**	0.235**	0.046**	Complementary
3	RiskTakingPro	Access to Resources	Feasibility	0.321**	0.267**	0.210**	0.255**	0.053**	Complementary
4	RiskTakingPro	Learning	Desirability	0.332**	0.259**	0.325**	0.226**	0.068**	Complementary
5	RiskTakingPro	Practical Approaches	Desirability	0.332**	0.298**	0.144**	0.235**	0.034**	Complementary
6	RiskTakingPro	Access to Resources	Desirability	0.332**	0.314**	0.071	0.255**	0.018	Direct only Non-mediation
7	LocusOfControl	Learning	Feasibility	0.301**	0.156**	0.369**	0.393**	0.141**	Complementary
8	LocusOfControl	Practical Approaches	Feasibility	0.301**	0.255**	0.210**	0.221**	0.044**	Complementary
9	LocusOfControl	Access to Resources	Feasibility	0.301**	0.252**	0.225**	0.220**	0.051**	Complementary
10	LocusOfControl	Learning	Desirability	0.303**	0.176**	0.323**	0.393**	0.120**	Complementary
11	LocusOfControl	Practical Approaches	Desirability	0.303**	0.269**	0.153**	0.221**	0.032*	Complementary
12	LocusOfControl	Access to Resources	Desirability	0.303**	0.283**	0.092*	0.220**	0.021*	Complementary
13	AchievementNeed	Learning	Feasibility	0.246**	0.106*	0.385**	0.361**	0.123**	Complementary
14	AchievementNeed	Practical Approaches	Feasibility	0.246**	0.198**	0.213**	0.223**	0.045**	Complementary
15	AchievementNeed	Access to Resources	Feasibility	0.246**	0.196**	0.231**	0.214**	0.049**	Complementary
16	AchievementNeed	Learning	Desirability	0.306**	0.192**	0.314**	0.361**	0.103**	Complementary
17	AchievementNeed	Practical Approaches	Desirability	0.306**	0.272**	0.149**	0.223**	0.032**	Complementary
18	AchievementNeed	Access to Resources	Desirability	0.306**	0.287**	0.086*	0.214**	0.017*	Complementary
19	PriorEntExpo	Learning	Feasibility	0.404**	0.329**	0.391**	0.191**	0.073**	Complementary
20	PriorEntExpo	Practical Approaches	Feasibility	0.404**	0.367**	0.219**	0.171*	0.036*	Complementary
21	PriorEntExpo	Access to Resources	Feasibility	0.404**	0.369**	0.242**	0.145*	0.034*	Complementary
22	PriorEntExpo	Learning	Desirability	0.193**	0.122	0.374**	0.191**	0.068**	Indirect only mediation
23	PriorEntExpo	Practical Approaches	Desirability	0.193**	0.164*	0.173**	0.171*	0.028*	Complementary
24	PriorEntExpo	Access to Resources	Desirability	0.193**	0.175**	0.125**	0.145*	0.018*	Complementary

Note: **** significant at 0.01 level** *** significant at 0.05 level**

9.4.2.1 Risk Taking Propensity's Effects on Feasibility and Desirability Mediated by EE

Firstly, Table 9.8 reports that the indirect effect (ab) of risk taking propensity (RTP) on perceived feasibility, through its influence on perceptions of effectiveness of EE, is positive and significant. This is verified by all three mediation statistics for the product of coefficients (ab): perceived learning (ab= 0.078**, Z=3.471, p=0.001), practical approaches (ab=0.046**, Z=2.934, p=0.003), and access to resources (ab=0.053**, Z=3.163, p=0.002). This is a consequence of RTP's effect on perceived learning, practical approaches and access to resources, which in turn influence perceived feasibility. Since the direct effect paths (c') are all significant (p<0.01), the type of mediation is complementary i.e. both the mediational paths and direct paths are significantly positive.

Furthermore, Table 9.8 reports that the indirect effect (ab) of RTP on perceived desirability, through its influence on perceptions of effectiveness of EE, is positive but only significant for perceived learning and practical approaches. This is confirmed by the mediation statistics for the product of coefficients (ab): perceived learning (ab=0.068**, Z=3.268, p=0.001), practical approaches (ab=0.034*, Z=2.692, p=0.007), and access to resources (ab=0.018, Z=1.561, p=0.118). This is a consequence of RTP's effect on perceived learning, practical approaches and access to resources, which in turn influence desirability. Since all the direct effect paths (c') are significant (p<0.01), the type of mediation is complementary for perceived learning and practical approaches i.e. both the mediational paths and direct paths are positive and significant. However, for access to resources, the mediational path is insignificant while the direct path is significantly positive.

9.4.2.2 Locus of Control's Effects on Feasibility and Desirability Mediated by EE

Secondly, Table 9.8 reports that the indirect effect (ab) of internal locus of control (ILC) on feasibility, through its influence on perceptions of effectiveness of EE, is positive and significant. This is confirmed by mediation statistics for the product of coefficients (ab): perceived learning (ab=0.141**, Z=4.135, p=0.000), practical approaches (ab=0.044**, Z=2.577, p=0.010), and access to resources (ab=0.051**, Z=2.871, p=0.004). This is a result of ILC's effect on perceived learning, practical approaches and access to resources, which sequentially influence perceived feasibility. Since the direct effect paths (c') are all significant (p<0.01), the type of mediation is complementary i.e. both the mediational paths and direct paths are significantly positive.

Furthermore, Table 9.8 reports that the indirect effect (ab) of ILC on desirability, through its influence on the perceptions of effectiveness of EE, is positive and significant. This is verified by mediation statistics for product of coefficients (ab): perceived learning (ab=0.120**, Z=3.846, p=0.000), practical approaches (ab=0.032*, p=2.475, p=0.013), and access to resources (ab=0.021*, Z=1.985, p=0.049). This is a consequence of ILC's effect on perceived learning, practical approaches and access to resources, which in turn influence desirability. Since all the direct effect paths (c') are significant (p<0.01), the type of mediation is complementary i.e. both the mediational paths and direct paths are significantly positive.

9.4.2.3 Need for Achievement's Effects on Feasibility and Desirability Mediated by EE

Thirdly, Table 9.8 reports that the indirect effect (ab) of need for achievement (NAch) on feasibility, through its influence on perceptions of effectiveness of EE, is positive and significant. This is verified by the mediation statistics for the product of

coefficients (ab): perceived learning (ab=0.123**, Z=3.980, p=0.000), practical approaches (ab=0.045*, Z=2.783, p=0.005), and access to resources (ab=0.049**, Z=2.929, p=0.003). This is a consequence of the NAch's effect on perceived learning, practical approaches and access to resources, which sequentially influence perceived feasibility. Since the direct effect paths (c') are significant for practical approaches ($p<0.01$), access to resources ($p<0.01$) and perceived learning ($p<0.05$), the type of mediation is complementary i.e. both the mediation paths and direct paths are significantly positive.

Furthermore, Table 9.8 reports that the indirect effect (ab) of NAch on perceived desirability, through its influence on perceptions of effectiveness of EE, is positive and significant. This is supported by the mediation statistics for the product of coefficients (ab): perceived learning (ab=0.103**, Z=3.748, p=0.000), practical approaches (ab=0.032*, Z=2.634, p=0.008), and access to resources (ab=0.017*, Z=1.996, p=0.047). This is a consequence of the NAch's effect on perceived learning, practical approaches and access to resources, which in turn influence perceived desirability. Since all the direct effect paths (c') are significant ($p<0.01$), the type of mediation is complementary i.e. both the mediation paths and direct paths are significantly positive.

9.4.2.4 Prior Entrepreneurial Exposure's Effects on Feasibility and Desirability Mediated by EE

Fourthly, Table 9.8 reports that the indirect effect (ab) of prior entrepreneurial exposure (PEE) on perceived feasibility, through its influence on perceptions of effectiveness of EE, is positive and significant. This is verified by the mediation statistics for the product of coefficients (ab): perceived learning (ab=0.073**, Z=2.877, p=0.004), practical approaches (ab=0.036*, Z=1.998, p=0.049), and access to resources (ab=0.034*, Z=1.988, p=0.047). This is a result of PEE's

effect on perceived learning, practical approaches and access to resources, which sequentially influence perceived feasibility. Since all the direct effect paths (c') are significant ($p<0.01$), the type of mediation is complementary i.e. both the mediation paths and direct paths are significantly positive.

Lastly, Table 9.8 reports that the indirect effect (ab) of PEE on perceived desirability, through its influence on perceptions of effectiveness of EE, is positive and significant. This is substantiated by mediation statistics for the product of coefficients (ab): perceived learning (ab=0.068**, Z=2.814, p=0.005), practical approaches (ab=0.028*, Z=1.998, p=0.048), and access to resources (ab=0.018*, Z=1.992, p=0.046). This is a consequence of PEE's effect on perceived learning, practical approaches and access to resources, which in turn influence perceived desirability. Since the direct effect paths (c') are significant for practical approaches ($p<0.01$) and access to resources ($p<0.05$), the type of mediation is complementary i.e. both the mediation paths and direct paths are significantly positive. However, for perceived learning, the type of mediation is indirect-only i.e. the indirect path is significant while the direct path is insignificant.

9.4.2.5 Summary of Mediating Role of EE on Individual Factors' Influences

The overall meaning of the preceding results is that EE participants have different individual characteristics and backgrounds. This is because individuals differ in ability, temperament, personality, interests, and upbringing/socialisation. Some characteristics on which individuals differ determine whether one finds the tasks, roles, and activities of entrepreneurship attractive and viable. Thus, individuals with relevant individual factors enter the EE course/module with more favourable attitudes (predispositions) to the notion of business start-up. This favourable predisposition affects EE in terms of effort, zeal, and receptiveness. Consequently, it affects perceived and actual mastery of entrepreneurship knowledge and skills

acquired through EE. This in turn leads to higher perceived feasibility and desirability of entrepreneurship.

These findings also echo qualitative findings discussed in section 8.2.2. The interviewees explain that individuals with characteristics and backgrounds aligned to entrepreneurship, such as high NAch, RTP, ILC and PEE, have higher odds of starting a business and achieving higher learning outcomes in EE. This is because such individuals already find entrepreneurship attractive and so they are likely to apply themselves more during the training; such individuals are more eager to learn about how to be successful at what they already like. This would reflect in differences in the level of knowledge and skills acquired through EE. Since EE develops entrepreneurial capabilities and clarifies the benefits of entrepreneurship, such individuals would find entrepreneurship even more attractive and achievable after the EE.

The possibility that individual factors' effects on perceived feasibility and desirability of entreprenurship are mediated by perceptions of effectiveness of EE has not been empirically examined in prior research. This finding is consistent with observations in extant literature that attitude and interest toward a subject influence effort in learning and the consequent performance (Blickle, 1996; Chamorro-Premuzic and Furnham, 2003; De Fruyt and Mervielde, 1996; Lewis et al., 2009; Lievens et al., 2002; Matlay, 2010). Specifically in relation to a career in entrepreneurship, one study in the context of the USA finds that individuals with higher RTP seem to benefit more from entrepreneurship training. This is because they have higher business creation and ownership rates after the training (Fairlie and Holleran, 2011). That study was based on longitudinal survey results from the Department of Labour for Growing America Through Enterprise (GATE) project that enrolled adults for free training and coaching in business creation and

management. Peterman and Kennedy (2003) in Australia find that individuals with prior entrepreneurial exposure are more likely to choose to participate in EE. This may mean that individuals with prior exposure are more interested in entrepreneurship and so they would like to learn more about how to become successful entrepeneurs. Scholars indicate the need to explore if, why and how EE and its impact differ in different learning contexts and with different individuals (Rideout and Gray, 2013; Wang and Hugh, 2014). However, hitherto, no empricial study has developed, tested and validated a conceptual model to reflect these suggestions.

9.5 Conclusions

This chapter has reported the correlation, regression and mediation analyses results of the quantitative research. The results are discussed and interpreted based on findings from qualitative research and prior research. Firstly, the findings show that entrepreneurial intention (EI) is parsimoniously a function of perceived feasibility and desirability of entrepreneurship; the two attitudinal antecedents are the major predictors of EI. Secondly, the results have shown that individual and institutional factors are positively associated with perceived feasibility and desirability. Individual factors include risk-taking propensity, internal locus of control, need for achievement and prior entrepreneurial exposure. Institutional factors include normative, cognitive, and regulatory institutions. Perceived feasibility and desirability of entrepreneurship then influence EI. Until the current study, the influence of normative, cognitive and normative institutions on perceived feasibility and desirability of entrepreneurship has not been empirically investigated.

Thirdly, the findings show that effectiveness of EE mediates the effects of individual and institutional factors on perceived feasibility and desirability of entrepreneurship. Perceived learning from the module, access to resources and practical approaches (experiential learning) reflect effectiveness of EE. The mediational role of EE entails that individual and institutional factors transmit their effects on perceived feasibility and desirability in two ways: a) direct influence on perceived feasibility and desirability; and b) indirect influence on perceived desirability and feasibility via effectiveness of EE. Until the current study, the possibility that EE may have a mediatory role has not been empirically examined. Lastly, scholars indicate the need to explore if, why and how EE and its impact differ in different learning contexts and with different individuals (Rideout and Gray, 2013; Wang and Hugh, 2014). Moreover, De Clercq et al. (2011) recommend that future studies should investigate combinations of individual and institutional factors' effects on perceived feasibility to start a business. However, hitherto, no empricial study has developed, tested and validated a conceptual model to reflect these suggestions. Clearly, the results have shown that individual factors and institutional factors are primary while EE provides additional avenue/mechanism for individual and institutional factors to influence EI.

The next chapter summarises the major findings of the study, highlights the contributions to knowledge, and discusses implications of the findings to policy and practice. The chapter also discusses the limitations of the study and identifies areas for further research.

CHAPTER 10: CONCLUSIONS AND RECOMMENDATIONS

10.0 Introduction

Based on the literature review, this study aims to explore and examine individual and institutional determinants of entrepreneurial intention (EI). Additionally, it seeks to explore the effect of entrepreneurship education (EE) on the relationships between EI and its determinants. Specifically, the current research's objectives are:

- To examine the influence of institutional factors on entrepreneurial intention;
- To investigate the influence of individual factors on entrepreneurial intention; and,
- To explore and examine if entrepreneurship education has an intervening role on the effects of institutional and individual factors on entrepreneurial intention.

The preceding two chapters, 8 and 9, discuss the results of the current research. This chapter aims to highlight the major findings (section 10.1), contributions to knowledge (section 10.2) as well as implications for policy and practice (section 10.3). The chapter also outlines limitations of the current study and recommends directions for future research (section 10.4).

10.1 Findings and Conclusions of the Research

A detailed literature review exploring research on the effect of EE on EI shows mixed conclusions (Bae et al., 2014; Fayolle and Liñán, 2014; Küttim et al., 2014); while some studies find positive impact (Farashah, 2013; Fayolle et al., 2006a; Fayolle and Gailly, 2009; Peterman and Kennedy, 2003; Solesvik et al., 2013;

Souitaris et al., 2007; Zhang et al., 2013), others report a negative impact or no influence at all (Aouni and Pirnay, 2009; do Paço et al., 2013; Guerrero et al., 2008; Marques et al., 2012; Oosterbeek et al., 2010; Tegtmeir, 2012; von Graevenitz et al., 2010; Walter et al., 2011). In addition, there is a shortage of studies examining the effect of institutional factors on EI (Schlaegel and Koenig, 2014; Wicks, 2001; Bruton et al., 2010; Fayolle and Liñán, 2014). In particular, researchers recognise the lack of integrative models in examining the combined influence of EE, individual and contextual factors on EI (Cope, 2005; De Clercq et al., 2011; Fayolle and Liñán, 2014; Rideout and Gray, 2013; Wang and Chugh, 2014). Further, most studies on determinants of EI and entrepreneurial activity employ quantitative strategies and are conducted in developed countries, limiting the generalisability of their findings elsewhere (Bruton et al., 2010; Gartner, 2010; Hoskisson et al., 2011; Iakovleva et al., 2011; Nabi and Liñán, 2011; Solesvik et al., 2013; Solesvik et al., 2013; Solomon, 2007). Combinations of positivistic research (addressing 'what' issues) and interpretivistic research (addressing the 'why' and 'how' issues) are rare and yet important for model testing and in-depth understanding of phenomena (De Clercq et al., 2011; Fayolle and Liñán, 2014; Gartner, 2010; Shook et al., 2003; Stevenson and Jarillo, 1990; van Burg and Romme, 2014; Wang and Chugh, 2014).

In light of the foregoing considerations, the overall aim of the current research was to investigate if EE has an intervening role on the effects of individual and institutional factors on EI. Based on a review of the literature, a conceptual model was developed and reflected in Chapter 6. In the proposed model, the variables comprised the following:

- individual variables: risk taking propensity, internal locus of control, need for achievement and prior entrepreneurial exposure;

- institutional variables: normative, cognitive and regulatory institutions;
- intervening variables: effectiveness of EE, indicated by perceived learning from the module, perceived access to resources and perceived practical approaches (experiential learning) during EE; and,
- dependent variables: EI and its attitudinal antecedents i.e. perceived feasibility and desirability of entrepreneurship.

To avoid bias from utilising one particular methodology, this study employed a concurrent triangulation strategy. This was intended for model testing and in-depth understanding of the research issues in the Zambian context. Primary data were collected from Zambia via qualitative interviews and a quantitative survey. For the qualitative study, the interviewees included final year undergraduate students, educators and practitioners in enterprise support organisations. The interview data were analysed using Nvivo software. The findings from the interviews are discussed in chapter 8. For the quantitative study, the survey was based on a sample drawn from final year undergraduate students in Zambia. The survey data were analysed using SPSS. The findings from the survey are discussed in chapter 9. Questionnaire items/constructs were adopted/adapted from prior studies. The exception to this was one of the measures of effectiveness of EE i.e. perceived experiential learning (practical approaches), which was developed based on the literature review.

The survey data were subjected to factor and reliability analyses for the constructs development. The results of factor and reliability analyses are reported and discussed in chapter 7. Most of the Cronbach alphas for constructs were either at 0.70 or higher. Only one construct had an alpha value below 0.70. This was risking taking propensity with an alpha value of 0.62, which was still above 0.60 acceptable threshold (Brace et al., 2009). Based on reliability and validity of the

measurement model verified in Chapter 7, Chapter 9 reports the tests of hypotheses through regression and mediation analyses. For the regression analyses, the study controls for gender, age, university type (whether public or private university) and degree type (whether enrolled in a business degree or not). The overall results show that the majority of the hypotheses are supported (S) at either 1% or 5% level of significance with a few exceptions. Table 10.1 shows all the hypotheses.

Table 10.1 - Results of Hypotheses Testing

H1:	***Institutional factors are positively associated with feasibility and desirability of entrepreneurship***		(B)
H1a:	*Regulatory institution is positively associated with feasibility*	S	0.070*
H1b:	*Regulatory institution is positively associated with desirability*	NS	0.054
H1c:	*Normative institution is positively associated with feasibility*	S	0.115**
H1d:	*Normative institution is positively associated with desirability*	S	0.130**
H1e:	*Cognitive institution is positively associated with feasibility*	S	0.118**
H1f:	*Cognitive institution is positively associated with desirability*	NS	0.016
H2:	***Individual factors are positively associated with feasibility and desirability of entrepreneurship***		(B)
H2a:	*Risk taking propensity is positively associated with feasibility*	S	0.219**
H2b:	*Risk taking propensity is positively associated with desirability*	S	0.212**
H2c:	*Internal locus of control is positively associated with feasibility*	S	0.143**
H2d:	*Internal locus of control is positively associated with desirability*	S	0.133**
H2e:	*Need for achievement is positively associated with feasibility*	S	0.156**
H2f:	*Need for achievement is positively associated with desirability*	S	0.159**
H2g:	*Prior entrepreneurial exposure is positively associated with feasibility*	S	0.289**
H2h:	*Prior entrepreneurial exposure is positively associated with desirability*	S	0.111*
H3:	***Effectiveness of EE mediates the influence of institutional factors on feasibility and desirability of entrepreneurship***		Indirect effect (ab)
H3a:	*Perceived learning mediates the relationship between regulatory institution and feasibility*	S	0.037*
H3b:	*Perceived practical approaches mediate the relationship between regulatory institution and feasibility*	S	0.046*
H3c:	*Perceived access to resources mediates the relationship between regulatory institution and feasibility*	S	0.038*
H3d:	*Perceived learning mediates the relationship between regulatory institution and desirability*	S	0.033*
H3e:	*Perceived practical approaches mediate the relationship between regulatory institution and desirability*	S	0.035**
H3f:	*Perceived access to resources mediates the relationship between regulatory institution and desirability*	S	0.021*

H3g:	*Perceived learning mediates the relationship between normative institution and feasibility*	S	0.086**
H3h:	*Perceived practical approaches mediate the relationship between normative institution and feasibility*	S	0.068**
H3i:	*Perceived access to resources mediates the relationship between normative institution and feasibility*	S	0.063**
H3j:	*Perceived learning mediates the relationship between normative institution and desirability*	S	0.075**
H3k:	*Perceived practical approaches mediate the relationship between normative institution and desirability*	S	0.047**
H3l:	*Perceived access to resources mediates the relationship between normative institution and desirability*	NS	0.022
H3m:	*Perceived learning mediates the relationship between cognitive institution and feasibility*	S	0.041*
H3n:	*Perceived practical approaches mediate the relationship between cognitive institution and feasibility*	S	0.054**
H3o:	*Perceived access to resources mediates the relationship between cognitive institution and feasibility*	S	0.034*
H3p:	*Perceived learning mediates the relationship between cognitive institution and desirability*	S	0.039*
H3q:	*Perceived practical approaches mediate the relationship between cognitive institution and desirability*	S	0.047**
H3r:	*Perceived access to resources mediates the relationship between cognitive institution and desirability*	S	0.019*
H4:	***EE mediates the effects of individual factors on feasibility and desirability of entrepreneurship***		Indirect effect (ab)
H4a:	*Perceived learning mediates the relationship between risk taking propensity and feasibility*	S	0.078**
H4b:	*Perceived practical approaches mediate the relationship between risk taking propensity and feasibility*	S	0.046**
H4c:	*Perceived access to resources mediates the relationship between risk taking propensity and feasibility*	S	0.053**
H4d:	*Perceived learning mediates the relationship between risk taking propensity and desirability*	S	0.068**
H4e:	*Perceived practical approaches mediate the relationship between risk taking propensity and desirability*	S	0.034**
H4f:	*Perceived access to resources mediates the relationship between risk taking propensity and desirability*	NS	0.018
H4g:	*Perceived learning mediates the relationship between internal locus of control and feasibility*	S	0.141**
H4h:	*Perceived practical approaches mediate the relationship between internal locus of control and feasibility*	S	0.044**
H4i:	*Perceived access to resources mediates the relationship between internal locus of control and feasibility*	S	0.051**
H4j:	*Perceived learning mediates the relationship between internal locus of control and desirability*	S	0.120**
H4k:	*Perceived practical approaches mediate the relationship between internal locus of control and desirability*	S	0.032*
H4l:	*Perceived access to resources mediates the relationship between internal locus of control and desirability*	S	0.021*

H4m:	*Perceived learning mediates the relationship between need for achievement and feasibility*	S	0.123**
H4n:	*Perceived practical approaches mediate the relationship between need for achievement and feasibility*	S	0.045**
H4o:	*Perceived access to resources mediates the relationship between need for achievement and feasibility*	S	0.049**
H4p:	*Perceived learning mediates the relationship between need for achievement and desirability*	S	0.103**
H4q:	*Perceived practical approaches mediate the relationship between need for achievement and desirability*	S	0.032**
H4r:	*Perceived access to resources mediates the relationship between need for achievement and desirability*	S	0.017*
H4s:	*Perceived learning mediates the relationship between prior entrepreneurial exposure and feasibility*	S	0.073**
H4t:	*Perceived practical approaches mediate the relationship between prior entrepreneurial exposure and feasibility*	S	0.036*
H4u:	*Perceived access to resources mediates the relationship between prior entrepreneurial exposure and feasibility*	S	0.034*
H4v:	*Perceived learning mediates the relationship between prior entrepreneurial exposure and desirability*	S	0.068**
H4w:	*Perceived practical approaches mediate the relationship between prior entrepreneurial exposure and desirability*	S	0.028*
H4x:	*Perceived access to resources mediates the relationship between prior entrepreneurial exposure and desirability*	S	0.018*
H5:	***Perceived feasibility and desirability of entrepreneurship are positively associated with entrepreneurial intention***		
H5a:	*Perceived desirability of entrepreneurship is positively associated with entrepreneurial intention*	S	0.472**
H5b:	*Perceived feasibility of entrepreneurship is positively associated with entrepreneurial intention*	S	0.463**

Note: **B** is regression coefficient, **ab** is indirect effect, significance levels ** (1%), *(5%)
Note: S- Supported; and NS-Not Supported

Overall, the empirical evidence from both the qualitative research and quantitative research has supported the basic EI model that EI is a function of perceptions of feasibility and desirability of entrepreneurship, a perspective that is consistent with prior research (Ajzen, 1991; Ajzen, 2011b; Fitzsimmons and Douglas, 2011; Krueger JR et al., 2000; Liñán et al., 2011a; Shapero and Sokol, 1982). Additionally, the results show that individual and institutional factors influence perceived feasibility and desirability of entrepreneurship. More importantly, the results indicate that effectiveness of EE significantly mediates the effects of individual and institutional factors on perceived feasibility and desirability. This means that individual and institutional factors exert their influence on perceived

feasibility and desirability in two ways: a) direct influence on perceived feasibility and desirability; and b) indirect influence on perceived feasibility and desirability via EE. Through appropriate pedagogical approaches, EE develops entrepreneurial capabilities and clarifies the benefits of entrepreneurship.

Favourable institutions promote entrepreneurship by reducing barriers and increasing awareness about the value and importance of entrepreneurship. Thus, favourable institutions also drive people toward EE, affecting interest, attitude, effort and the consequent performance in EE. This affects the level of entrepreneurship knowledge and skills acquired through EE, which in turn influences the perception that business start-up is worthwhile and possible.

Individuals differ in ability, temperament, personality, interests, and upbringing/socialisation. Some factors on which individuals differ determine whether one considers the tasks, roles, and activities of entrepreneurship to be attractive and possible. Individuals with attributes important for entrepreneurship not only find business start-up more attractive but also have more confidence in venturing. Consequently, such individuals have more favourable predispositions and interest toward EE. This affects effort and, hence, the level of entrepreneurship knowledge and skills acquired through EE, which in turn influences perceived feasibility and desirability of entrepreneurship.

10.2 Contributions to Knowledge

This research makes theoretical contributions along four directions. Firstly, against the backdrop of mixed conclusions in prior research about the effect of EE on EI, this study finds that the effect of EE should be examined in conjunction with factors at individual and institutional levels. Specifically, it establishes that effectiveness of EE mediates the effects of individual and institutional factors on

perceived feasibility and desirability of entrepreneurship i.e. the attitudinal antecedents of EI. This helps clarify the role of EE. Secondly, unlike prior studies and models that examine the influence of EE, individual factors and contextual factors in isolation from each other, this study develops and validates a multi-level integrated model to explore how these factors jointly shape EI. Thirdly, the study confirms that the basic EI model is applicable in a developing country context. Lastly, the research develops and validates constructs for assessing effectiveness of EE.

10.2.1 The Intervening Role of EE

The first and most important contribution relates to the effect of EE on EI. The extant literature has mixed conclusions; while some studies find that EE has positive effects on EI, others report negative effects (Bae et al., 2014; Fayolle and Liñán, 2014; Küttim et al., 2014). Because it is not yet clear if EE positively affects EI and other entrepreneurial outcomes, scholars call for methodologically adequate EE research as indicated in the quote below.

> *"Researchers have not yet answered the…relevant question as to what type of EE… for which type of student… under which sets of circumstances (or contexts) would positively affect entrepreneurial outcomes…We need a larger pool of methodologically adequate entrepreneurship education research. In this regard, well-designed cases studies would also be useful to help identify important mediators. We need more quantitative research that simultaneously examines the role of promising mediators like entrepreneurial self-efficacy, cognitive skills and knowledge, values and attitudes, social networks, and other contextual variables on policy relevant outcomes..."* Rideout and Gray (2013, p.348)

In reponse to the foregoing inconclusive findings, this study empirically finds that the effect of EE on EI should be evaluated in conjunction with factors at individual and institutional levels. Specifically, the study demonstrates that effectiveness of EE significantly mediates the effect of individual and institutional factors on

perceived feasibility and desirability of entrepreneurship. This means that individual and institutional factors influence the uptake, interest, effort and the consequent performance in EE to develop entrepreneurship knowledge and skills. Entrepreneurship knowledge and skills in turn influence the perception that starting, managing and growing a business is feasible and desirable. This ultimately leads to EI.

10.2.2 Development and Validation of a Multi-level Model

The second contribution relates to the development and validation of a multi-level conceptual model for EE and EI research. Prior research and the related conceptual models explore the influences of EE, individual and contextual factors on EI in isolation from each other (Fayolle and Liñán, 2014; Krueger, 2009; Shepherd, 2011; Walter et al., 2011). This has prompted scholars to call for models that help to examine how factors from the three angles are related in shaping EI (De Clercq et al., 2011; Ertuna and Gurel, 2011; Fayolle and Liñán, 2014; Rideout and Gray, 2013; Solesvik et al., 2013). Scholars have argued that focusing on only one angle often leads to incomplete understanding and sometimes inconsistent conclusions (Cope, 2005; De Clercq et al., 2011; Dohse and Walter, 2012; Fayolle and Liñán, 2014; Hitt et al., 2007; Krueger, 2009; Rideout and Gray, 2013; Wang and Chugh, 2014).

> *"…the construct of intentions appears to be deeply fundamental to human decision making, and as such, it should afford us multiple fruitful opportunities to explore the connection between intent and a vast array of other theories and models that relate to decision making under risk and uncertainty. This view opens the door for the development of integrative and more sophisticated theoretical models of the entrepreneurial process… New research may consider interaction…moderation...and mediation effects."* Fayolle and Liñán (2014, p.664)

In response to the foregoing knowledge gap, the current study contributes to knowledge by developing and empirically validating a multi-level conceptual framework about the effect of EE on the relationships between EI and its

institutional and individual determinants (Figure 10.1). This model is unlike many prior models that focus on one or two sets of factors.

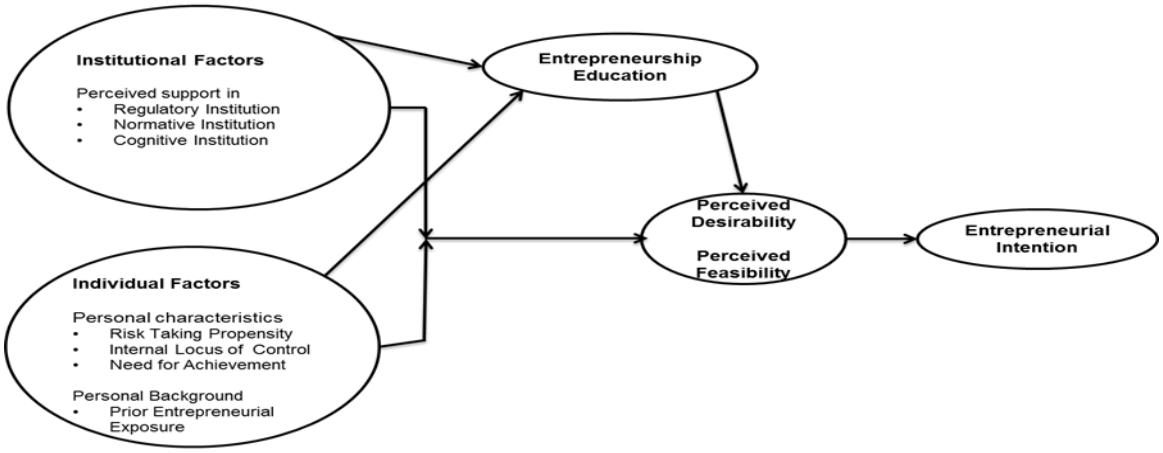


Figure 10.1 - Validated Conceptual Model for the Mediating Role of EE

The validated model demonstrates that individual and institutional factors exert their effects on EI not only through their influence on perceived feasibility and desirability but also through their influence on effectiveness of EE. By developing entrepreneurial capabilities and clarifying the benefits of entrepreneurship, EE enhances perceptions that business start-up is possible and valuable. In relation to EI, the current research has identified that effectiveness of EE comprises perceived learning from the module/programme, utilisation of resources and experiential learning. Individual factors consist of risk taking propensity, locus of control, need for achievement, and prior entrepreneurial exposure. Lastly, institutional factors comprise normative, cognitive and regulatory institutions. The study finds that individual and institutional factors are the primary predictors of perceived feasibility and desirability of entrepreneurship. The role of EE is to mediate these relationships. This ultimately leads to EI.

In relation to the validity of the proposed conceptual model, extant literarure indicates that combinations of positivistic research (addressing 'what' issues) and interpretivistic research (addressing the 'how' and "why" issues) are rare and yet important for model testing and comprehensive understanding of phenomena (Fayolle and Liñán, 2014; Gartner, 2010; Molina-Azorín et al., 2012; Shook et al., 2003; Stevenson and Jarillo, 1990; van Burg and Romme, 2014). Such a strategy is especially important in this area, where conclusions in prior research are contradictory to each other. Such a strategy is also important because the study is conducted in the context of an under-researched developing country. The fact that there is convergence between qualitative and quantitative research findings in this research indicates the validity of the research design and the value of the established model.

10.2.3 Applying the EI Model in a Developing Country Context

The third contribution relates to contextual applicability of the basic EI model. The findings confirm the propositions from the theory of planned behaviour (TPB) and Shapero's entrepreneurial event (SEE) model that EI is primarily a function of perceived feasibility and desirability of entrepreneurship (Ajzen, 1991; Ajzen, 2011b; Fitzsimmons and Douglas, 2011; Krueger JR et al., 2000; Liñán et al., 2011a; Schlaegel and Koenig, 2014; Shapero and Sokol, 1982). Scholars indicate that generally most studies in entrepreneurship, graduate entrepreneurship and EI in particular, are conducted in developed countries and this limits generalisability of the findings elsewhere (Fayolle and Liñán, 2014; Hoskisson et al., 2011; Nabi and Liñán, 2011; Solesvik et al., 2013). The consequence of scant research in developing countries is that researchers, policy makers, educators and other stakeholders do not have adequate information that takes into account local contexts for research, practice and policy direction. By conducting the research in

Zambia, the study confirms the applicability of the basic EI model as well as the influences of institutional factors, individual factors and EE on EI in a developing country context.

10.2.4 Further Development/Validation of Effectiveness of EE Constructs

The fourth contribution is the development and validation of the constructs of effectiveness of EE. Extant literature indicates that the link between pedagogical approaches and EI is not clear (De Grez and Van Lindt, 2012; Fayolle and Liñán, 2014; Krueger Jr, 2009; Küttim et al., 2014). In this regard, scholars indicate that "clearly there is also need for development of pyschometrically sound measures to support efforts in…entrepreneurship education research" (Rideout and Gray, 2013, p.348). In the literature, only Souitaris et al.(2007) developed and validated constructs of effectiveness of EE, based on perceived learning and utilisation of resources. The present study adopted and further validated the constructs from Souitaris et al.(2007). Furthermore, the study developed and validated the construct for perceived experiential learning (practical approaches). This allows the measurement of effectiveness of EE to go beyond the education content (i.e. learning from the module) and include experiential learning (i.e learning by doing). In relation to the link between pedagogical approaches and EI, this study has found that experiential learning is positively associated with feasibility and desirability of entrepreneurship. Validated constructs for evaluation of the effectiveness of EE may be the basis for identifying and improving specific aspects of the EE offering. This is especially important because EE delivery is widely criticised for being dominated by lectures and seminars; EE delivery should include experiential learning, networking and coaching activities.

10.3 Implications to Policy and Practice

The findings have implications for policy makers and practitioners in entrepreneurship education (EE) and entrepreneurship support organisations.

10.3.1 Implications to Policy Makers

From a policy perspective, to increase graduate's involvement in new venture creation, there is need for a holistic and multifaceted approach. Specifically, coordinated policies/strategies/programmes are required to promote EE, entrepreneurship training as well as favourable regulatory, cognitive and normative institutions for entrepreneurship. This is because EE may not lead to business start-up if potential entrepreneurs perceive insurmountable challenges in the entrepreneurial environment. Favourable regulatory mechanisms should include easy access to finance, sustained business advisory and training services, simplified regulations on business operations, lower formalisation costs, access to markets as well as affordable relevant infrastructure and technology. The availability of favourable mechanisms may encourage more individuals to set up businesses. However, even when regulatory institutions are favourable, not everyone will start a business. Personal issues such as willingness and readiness to bear risks, prior entrepreneurial exposure as well as entrepreneurial and technical skills can all influence business creation.

Favourable normative institutions entail society's admiration of entrepreneurship, innovation and creativity. This not only promotes the status of entrepreneurship in society but also increases the likelihood of moral, emotional, regulatory and material support from other stakeholders such as family, peers, colleagues, policy makers, relevant public and private organisations. To achieve this, multifaceted inputs are required from the media, government and non-government enterprise support organisations, role models as well as schools. Furthermore, favourable

cognitive institution helps increase people's understanding of what is involved in entrepreneurship. Consequently, it not only influences potential entrepreneurs' confidence in their abilities to start and manage a business but it also promotes the status of entrepreneurship.

Government could develop and implement coordinated nationwide policies and strategies to promote start-up and SME growth. Such policies and strategies should address concerted collaborative mechanisms amongst higher education institutions, government and non-government entrepreneurship support agencies, business regulatory and registration authorities and local authorities to promote entrepreneurship (CBI - NUS, 2011; Consultants, 2008; Gibcus et al., 2012; Lord Young, 2012; Lord Young, 2013; Rae, 2007a; Rae, 2010; Rae et al., 2012; Small Business Charter, 2014; Witty, 2013). Specifically, EE should be embedded in curriculum and extra-curriculum in institutions of learning. Periodically the implementation of EE and support mechanisms could be monitored and evaluated so that best practices are promoted and shared. The findings also suggest that decentralised mechanisms for government and non-government financial and regulatory support to start-ups and SMEs would be more effective. In addition, there is need for policy makers to work with local authorities that may be better placed to provide infrastructure support such as incubators and other start-up incentives. For effectiveness, annual targets for a manageable number of fledgling businesses to be supported should be set.

Since starting any business is fraught with uncertainty, financial burdens and resource constraints, business incubator (BI) services would provide a nurturing, instructive and supportive environment for some entrepreneurs during the first critical stages i.e. 3 years (Bruneel et al., 2012; CABI, 2014; NBIA, 2014; UKBI, 2014). The goal of BIs is usually to increase the chance that a start-up will

succeed, achieve growth, shorten the time and reduce the cost of getting established. The graduating firm should leave the programme financially viable and free standing (CABI, 2014; Clarysse et al., 2005; Mutambi et al., 2010; Phan et al., 2005; Ratinho and Henriques, 2010). To achieve their objectives, BIs typically provide their clients (or tenants) with a mix of services encompassing infrastructure, business support services and networking (Bergek and Norrman, 2008; Bruneel et al., 2012; Lalkaka, 2009).

10.3.2 Implications to Practice

Further to the foregoing policy implications, the findings have implications for EE practice and entrepreneurship support. For entrepreneurship support practitioners, the study implies that there is need to efficiently and effectively disseminate information on available regulatory and other support mechanisms to relevant stakeholders. This is necessary to enable potential and nascent entrepreneurs inside and outside learning institutions to thoroughly understand the available institutional support and how to access it. For effectiveness, collaborative mechanisms may be required to coordinate efforts of stakeholders such as banks, role model entrepreneurs, educators, local authorities and enterprise support practitioners to deliver training, mentoring and coaching through workshops, incubators/science parks and EE channels for potential and nascent entrepreneurs inside and outside universities.

To contribute to new venture creation, EE offering should focus on content and methods of delivery which allow participants to engage in activities that enable one to understand the entrepreneurial process and its behavioural requirements. Participants should also learn not only how to harness the available support but also how to overcome some of the challenges in the environment. To participate as decentralised conduits of start-up and SME growth support, higher education

institutions may be required to initiate and grow in provision of the following services (CBI - NUS, 2011; Consultants, 2008; Gibcus et al., 2012; Lord Young, 2012; Lord Young, 2013; Rae, 2007a; Rae, 2010; Rae et al., 2012; Small Business Charter, 2014; Witty, 2013): a) graduate/student start-up and employability support; b) start-up and small business growth support; c) wider stakeholder engagement in SME growth issues.

10.4 Limitations and Recommendations for Future Research

10.4.1 Research Limitations

All research has limitations and this study is of no exception. Firstly, this study is cross-sectional and, therefore, the findings may be time specific and lack generalisability over time.

The second limitation is in relation to research context. The study used empirical data from a single developing country and, thus, the findings may be limited to Zambia and not generalisable to other countries in the region and beyond (Fayolle and Liñán, 2014; Hoskisson et al., 2011).

The third limitation relates to data analyses. The advantage of using structural equation modelling (SEM) technique is that instead of assuming that equations generating direct and indirect paths (i.e. paths a, b, c' and c) are independent, it estimates everything simultaneously. In this study, the multiple independent and multiple mediator variables meant that the hierarchical multiple regression format examined each relationship in the model separately. While models with many mediation pathways become tortuous and complicated, simultaneously assessing the effects of many variables in a model approximates reality closer (Hayes, 2013; Jose, 2013; Zhao et al., 2010b). However, it should be noted that the conceptual issues in mediation analysis hold with equal force to SEM and regression analyses

i.e. whether via regression or SEM, only the indirect effect needs to be significant (Zhao et al, 2010b; Naylor et al., 2012).

10.4.2 Directions for Future Research

In light of the findings and limitations of the research, directions for future research are suggested. First, future studies may consider employing a longitudinal research design to evaluate the veracity of the model on the intervening role of EE on EI over time. For instance, studies could compare EE participants and non-participants before and after the educational intervention. This would allow for the intervening role of EE to be assessed over time. It would also allow for causality to be inferred. Even cross sectional studies could consider controlling for pre-EE EI.

Second, studies could assess EI and the transition into actual venture creation based on the duration and characteristics of EE. For instance, samples of participants in short and long EE programmes could be compared. The comparison could be done at the beginning, end of the programmes and even beyond. This would enable scholars to understand the impact of duration of EE on EI and actual entrepreneurial behaviour over time.

Third, future studies could further test the veracity of the model in different contexts. For example, samples from two or more countries at the same or different levels of economic development could be compared. Also individuals receiving entrepreneurial training outside institutions of higher education could be sampled. This would enable scholars to assess the generalisability of the model in different contexts and countries.

Fourth, future studies could explore interacting effects among EI determinants. For instance, among institutional factors, future studies could explore if there are interactions amongst cognitive, normative and regulatory institutions. This may

enhance readers' understanding of how the effect of one factor on EI changes in the absence or presence of one or more of the other factors (Fayolle and Liñán, 2014; Fitzsimmons and Douglas, 2011).

Fifth, future studies should note that while literature recommends use of validated constructs from high quality prior studies, the constructs avalaible may have implicit problems. For instance, in this study a few items comprising constructs for the normative institution, regulatory institution and practical approaches to EE delivery may have a double or triple barrel problem that would potentially influence the findings. Although in this research each respondent at the start and end of answering the survey questionnare was asked to indicate if any of the questions was unclear, more caution is recommended when adopting and adapting existing constructs in future.

Sixth, future studies should consider including other factors at individual and institutional levels to explore their effects on the effectiveness of EE. For example, among background factors, researchers could consider assessing the impact of the possibility that some students are advised by parents or influenced by their friends to pursue entrepreneurship programmes. This would be in line with Ajzen's (1991) theory of planned behaviour concept of subjective norms i.e. whether parents, relatives, friends and colleagues' approval or disapproval of a particular behaviour impacts the adoption of that behaviour. Among contextual factors, differences in religion and ethnicity could also be considered.

Lastly, future studies could use structural equation modelling (SEM) to explore how the model would be pruned and what additional insights could emerge from a simultaneous interplay of individual factors, institutional factors and EE's effects on EI. While models with many mediation pathways become tortuous and

complicated, simultaneously assessing the effects of many variables in a model approximates reality closer (Hayes, 2013; Jose, 2013; Zhao et al., 2010b).

10.5 Final Conclusion

The extant literature shows that entrepreneurship contributes to economic development, competition, innovation and job creation for economies. Given its contribution to the economy, the changing employer expectations and the increasing problem of graduate unemployment, there is growing need to understand the factors that contribute to increasing entrepreneurship. EI is critical in the entrepreneurial process since empirical evidence shows that individuals with EI are more likely to start their own businesses (Bird, 1988; Bird, 1992; Henley, 2007; Kautonen et al., 2013). The small but growing body of literature on the influence of EE on EI shows that findings are sometimes contradictory to each other. Apart from scarcity of studies from developing countries on EE and EI, there is a shortage of studies investigating whether EE has an impact on relationships between EI and its individual and institutional determinants (Rideout and Gray, 2013; De Clercq et al., 2011; Ertuna and Gurel, 2011; Krueger, 2009; Fayolle and Liñán, 2014). Furthermore, research on the influence of EE, individual and institutional factors on EI has grown in isolation from each other (Fayolle and Liñán, 2014). There is also a shortage of empirical studies investigating the influence of country institutional profile of entrepreneurship on EI (Bruton et al., 2010; De Clercq et al., 2011; Engle et al., 2011).

Responding to the foregoing knowledge gaps, and through a concurrent triangulation research strategy, this study has developed and validated a conceptual model showing that the effect of EE on EI should be evaluated in conjunction with individual and institutional factors. Firstly, EI is primarily a function

of perceived feasibility and desirability of entrepreneurship. Secondly, individual and institutional factors influence perceived feasibility and desirability of entrepreneurship in two ways: directly and indirectly via EE. Lastly, the findings derived suggest that, in order to promote graduate entrepreneurship, multifaceted and concerted efforts will be required from policy makers (to help shape institutions), practitioners (to devise and implement collaborative support mechanisms), educators (to design and deliver appropriate EE content and pedagogy) and scholars (to evaluate and develop knowledge).

REFERENCES

Aarts, H., Dijksterhuis, A., 2000. Habits as Knowledge Structures: Automaticity in Goal-Directed Behavior. Journal of Personality and Social Psychology 78 (1), 53.

Acs, Z., 2006. How is Entrepreneurship Good for Economic Growth? Innovations: Technology, Governance, Globalization 1 (1), 97-107.

Acs, Z., Szerb, L., 2012. Global Entrepreneurship and Development Index 2012. Edward Elgar Pub.

African Economic Outlook, 2014. Economic Outlook of Zambia, http://www.africaneconomicoutlook.org/en/countries/southern-africa/zambia/ accessed July 14, 2014 10:00 Hours UK Time.

Agbor, J., Taiwo, O., Smith, J., 2012. Sub-Saharan Africa's Youth Bulge: A Demographic Dividend Or Disaster, Foresight Africa: Top Priorities for the Continent in 2012 The Brookings Institution, Africa Growth Initiative, 9-11.

Ahmad, H.M., 2010. Personality Traits among Entrepreneurial and Professional CEO's in SMEs, International Journal of Business and Management 5 (9), P203.

Ahmed, S.U., 1985. nAch, Risk-Taking Propensity, Locus of Control and Entrepreneurship, Personality and Individual Differences 6 (6), 781-782.

Ainuddin, R.A., Junit, S.H., Poon, J.M.L., 2006. Effects of Self-Concept Traits and Entrepreneurial Orientation on Firm Performance, International Small Business Journal 24, 61+.

Ajzen, I., 2002. Perceived Behavioral Control, Self-Efficacy, Locus of Control, and the Theory of Planned Behavior, Journal of Applied Social Psychology 32 (4), 665-683.

Ajzen, I., 1991. The Theory of Planned Behavior, Organizational Behavior and Human Decision Processes 50 (2), 179-211.

Ajzen, I., Fishbein, M., 2005. The Influence of Attitudes on Behavior, The Handbook of Attitudes 173, 221.

Ajzen, I., Fishbein, M., 1980. Understanding Attitudes and Predicting Social Behavior. Prentice-Hall.

Ajzen, I., 2011a. Constructing a Theory of Planned Behavior Questionnaire, Unpublished Manuscript.Retrieved 1.

Ajzen, I., 2011b. The Theory of Planned Behaviour: Reactions and Reflections, Psychology & Health 26 (9), 1113-1127.

Allinson, C.W., Chell, E., Hayes, J., 2000. Intuition and Entrepreneurial Behaviour, European Journal of Work and Organizational Psychology 9 (1), 31-43.

Almobaireek, W.N., Manolova, T.S., 2012. Who Wants to be an Entrepreneur? Entrepreneurial Intentions among Saudi University Students, African Journal of Business Management 6 (11), 4029-4040.

Altinay, L., Madanoglu, M., Daniele, R., Lashley, C., 2012. The Influence of Family Tradition and Psychological Traits on Entrepreneurial Intention, International Journal of Hospitality Management 31 (2), 489-499.

Alvarez, C., Urbano, D., Coduras, A., Ruiz-Navarro, J., 2011. Environmental Conditions and Entrepreneurial Activity: A Regional Comparison in Spain, Journal of Small Business and Enterprise Development 18 (1), 120-140.

Alvarez, S.A., Busenitz, L.W., 2001. The Entrepreneurship of Resource-Based Theory, Journal of Management 27 (6), 755-775.

Andrew C., C., 2007. Learning Asymmetries and the Discovery of Entrepreneurial Opportunities, Journal of Business Venturing 22 (1), 97-118.

Andrews, F.M., Robinson, J.P., Shaver, P.R., Wrightsman, L.S., 1991. Measures of Personality and Social Psychological Attitudes. Access Online via Elsevier.

Andrews, K., 1971. Concept of Corporate Strategy

Aouni, Z., Pirnay, F., 2009. L'impact De L'exposition À Des Modèles D'entrepreneurs Sur Les Antécédents De L'intention Entrepreneuriale, Actes Du 6ème Congrès De l'Académie De L'Entrepreneuriat.

Arabsheibani, G., De Meza, D., Maloney, J., Pearson, B., 2000. And a Vision Appeared Unto them of a Great Profit: Evidence of Self-Deception among the Self-Employed, Economics Letters 67 (1), 35-41.

Arasti, Z., Kiani Falavarjani, M., Imanipour, N., 2012. A Study of Teaching Methods in Entrepreneurship Education for Graduate Students, Higher Education Studies 2 (1), p2.
Arenius, P., Clercq, D.D., 2005. A Network-Based Approach on Opportunity Recognition, Small Business Economics 24 (3), 249-265.
Aronsson, M., 2004. Education Matters--but does Entrepreneurship Education? an Interview with David Birch, Academy of Management Learning & Education 3 (3), 289-292.
Atherton, A., 2004. Unbundling Enterprise and Entrepreneurship: From Perceptions and Preconceptions to Concept and Practice, The International Journal of Entrepreneurship and Innovation 5 (2), 121-127.
Atkinson, R., Atkinson, K., Hilgard, E., 1983. Introduction to Psychology.
Audretsch, D.B., 2007. Entrepreneurship Capital and Economic Growth, Oxford Review of Economic Policy 23 (1), 63-78.
Audretsch, D.B., Acs, Z.J., 1994. New-Firm Startups, Technology, and Macroeconomic Fluctuations, Small Business Economics 6 (6), 439-449.
Autio, E., Keeley, R.H., Klofsten, M., Parker, G.G.C., Hay, M., 2001. Entrepreneurial Intent among Students in Scandinavia and in the USA, Enterprise and Innovation Management Studies 2 (2), 145-160.
Babb, E.M., Babb, S.V., 1992. Psychological Traits of Rural Entrepreneurs, Journal of Socio-Economics 21 (4), 353-362.
Bae, T.J., Qian, S., Miao, C., Fiet, J.O., 2014. The Relationship between Entrepreneurship Education and Entrepreneurial Intentions: A Meta-Analytic Review, Entrepreneurship Theory and Practice 38 (2), 217-254.
Bagozzi, R.P., Yi, Y., 1991. Multitrait-Multimethod Matrices in Consumer Research, Journal of Consumer Research, 426-439.
Bagozzi, R.P., Yi, Y., Phillips, L.W., 1991. Assessing Construct Validity in Organizational Research, Administrative Science Quarterly, 421-458.
Baker, M.J., 2003. Qualitative Market Research: Principles and Practice, Journal of Marketing Management 19 (3), 515-516.
Bandura, A., 1993. Perceived Self-Efficacy in Cognitive Development and Functioning, Educational Psychologist 28 (2), 117-148.
Bandura, A., 1982. Self-Efficacy Mechanism in Human Agency. American Psychologist 37 (2), 122.
Bandura, A., 2001. Social Cognitive Theory: An Agentic Perspective, Annual Review of Psychology 52, 1-26.
Bandura, A., 1977. Self-Efficacy: Toward a Unifying Theory of Behavioral Change, Psychological Review 84 (2), 191-215.
Bandura, Albert, 1989. Regulation of Cognitive Processes through Perceived Self-Efficacy, Developmental Psychology 25 (5), 729-735.
Bank of Zambia, 2014. Country Data for Zambia, http://www.boz.zm/ accessed July 13, 2014 18:00 Hours UK Time.
Bank of Zambia FinScope, 2010. A Survey of the Population's Access to Financial Access in Zambia, Bank of Zambia Website Access March 20, 2014 16:00 Hours UK Time.
BarNir, A., Watson, W.E., Hutchins, H.M., 2011. Mediation and Moderated Mediation in the Relationship among Role Models, Self-Efficacy, Entrepreneurial Career Intention, and Gender, Journal of Applied Social Psychology 41 (2), 270-297.
Baron, R.A., 2000. Counterfactual Thinking and Venture Formation: The Potential Effects of Thinking About, Journal of Business Venturing 15 (1), 79-91.
Baron, R.M., Kenny, D.A., 1986. The Moderator–mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations. Journal of Personality and Social Psychology 51 (6), 1173.
Baron, R.A., Ensley, M.D., 2006. Opportunity Recognition as the Detection of Meaningful Patterns: Evidence from Comparisons of Novice and Experienced Entrepreneurs, Management Science 52 (9), 1331-1344.
Barrick, M.R., Mount, M.K., 1991. The Big Five Personality Dimensions and Job Performance: A Meta-analysis, Personnel Psychology 44 (1), 1-26.

Bartlett, M.S., 1954. A Note on the Multiplying Factors for various X 2 Approximations, Journal of the Royal Statistical Society.Series B (Methodological), 296-298.
Bateman, T.S., Zeithaml, C.P., 1989. The Psychological Context of Strategic Decisions: A Model and Convergent Experimental Findings, Strategic Management Journal 10 (1), 59-74.
Baughn, C.C., Cao, J.S.R., Le, L.T.M., Lim, V.A., Neupert, K.E., 2006. Normative, Social and Cognitive Predictors of Entrepreneurial Interest in China, Vietnam and the Philippines, Journal of Developmental Entrepreneurship 11 (1), 57.
Baumol, W.J., 1993. Formal Entrepreneurship Theory in Economics: Existence and Bounds, Journal of Business Venturing 8 (3), 197-210.
Baumol, W., Litan, R., Schramm, C., 2007. Good Capitalism, Bad Capitalism, and the Economics of Growth and Prosperity, Bad Capitalism, and the Economics of Growth and Prosperity.
Béchard, J., Grégoire, D., 2005. Entrepreneurship Education Research Revisited: The Case of Higher Education, Academy of Management Learning & Education 4 (1), 22-43.
Becker, G.S., 2009. Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education. University of Chicago Press.
Becker, G.S., 1962. Investment in Human Capital: A Theoretical Analysis, The Journal of Political Economy, 9-49.
Beeka, B.H., Rimmington, M., 2011. Entrepreneurship as A Career Option for African Youths, Journal of Developmental Entrepreneurship 16 (01), 145-164.
Begley, T.M., Boyd, D.P., 1986. Psychological Characteristics Associated with Entrepreneurial Performance, Frontiers of Entrepreneurship Research 146.
Bergek, A., Norrman, C., 2008. Incubator Best Practice: A Framework, Technovation 28 (1), 20-28.
Bhaskar, R., 2008. A Realist Theory of Science. Taylor & Francis US.
Bhaskar, R., 1998. Philosophy and Scientific Realism, Critical Realism: Essential Readings, 16-47.
Bhaskar, R., 1978a. On the Possibility of Social Scientific Knowledge and the Limits of Naturalism, Journal for the Theory of Social Behaviour 8 (1), 1-28.
Bhaskar, R., 1978b. A Realist Philosophy of Science, Harvester Wheatsheaf, Hemel Hempstead.
Bhide, A., 2000. The Origin and Evolution of New Businesses. Oxford University Press, USA.
Bianchi, M., 2010. Credit Constraints, Entrepreneurial Talent, and Economic Development, Small Business Economics 34 (1), 93-104.
Birch, D., 1979. The Job Generation Process, University of Illinois at Urbana-Champaign's Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship.
Bird, B., 1988. Implementing Entrepreneurial Ideas: The Case for Intention, Academy of Management Review 13 (3), 442-453.
Bird, B.J., 1992. The Operation of Intentions in Time: The Emergence of the New Venture, Entrepreneurship: Theory & Practice 17 (1), 11-20.
Birdthistle, N., 2008. An Examination of Tertiary Students' Desire to found an Enterprise, Education Training 50 (7), 552-567.
Blanchflower, D., Shadforth, C., 2007. Entrepreneurship in the UK, Foundations and Trends in Entrepreneurship 3 (4), 257-364.
Blenker, P., Korsgaard, S., Neergaard, H., Thrane, C., 2011. The Questions we Care about: Paradigms and Progression in Entrepreneurship Education, Industry and Higher Education 25 (6), 417-427.
Blickle, G., 1996. Personality Traits, Learning Stratigies, and Performance, European Journal of Personality 10 (5), 337-352.
Block, Z., Stumpf, S.A., 1990. Entrepreneurship Education Research: Experience and Challenge. Center for Entrepreneurial Studies, New York University, Leonard N. Stern School of Business.
Blumer, H., 1986. Symbolic Interactionism: Perspective and Method. University of California Press.

Blumer, H., 1966. Sociological Implications of the Thought of George Herbert Mead.
Blundel, R., 2007. Critical Realism: A Suitable Vehicle for Entrepreneurship Research, Handbook of Qualitative Research Methods in Entrepreneurship, 49-78.
Bogdan, R., Taylor, S.J., 1975. Introduction to Qualitative Methods: A Phenomenological Approach to the Social Sciences.
Boissin, J., Emin, S., 2007. Les Étudiants Et L'Entrepreuneuriat: L'Effet Des Formations, Gestion 2000, 24 (3,).
Bolton, B., Thompson, J., 2002. The Entrepreneur in Focus: Achieve Your Potential. Cengage Learning EMEA.
Bonchek, M.S., ShepSle, K.A., 1997. Analyzing Politics: Rationality, Behaviour and Institutions, .
Bonnett, C., Furnham, A., 1991. Who Wants to be an Entrepreneur? A Study of Adolescents Interested in a Young Enterprise Scheme, Journal of Economic Psychology 12 (3), 465-478.
Bono, J.E., McNamara, G., 2011. Publishing in AMJ—Part 2: Research Design, Academy of Management Journal 54 (4), 657-660.
Bontempo, R., Rivero, J., 1992. Cultural Variation in Cognition: The Role of Self-Concept in the Attitude-Behavior Link. In: Meeting of the American Academy of Management, Las Vegas, Nevada.
Bosma, N., Van Praag, M., Thurik, R., De Wit, G., 2004. The Value of Human and Social Capital Investments for the Business Performance of Startups, Small Business Economics 23 (3), 227-236.
Bouchard, T.J., 1976. Unobtrusive Measures an I Nventory of Uses, Sociological Methods & Research 4 (3), 267-300.
Bowen, H.P., De Clercq, D., 2007. Institutional Context and the Allocation of Entrepreneurial Effort, Journal of International Business Studies 39 (4), 747-767.
Boyd, N.G., Vozikis, G.S., 1994. The Influence of Self-Efficacy on the Development of Entrepreneurial Intentions and Actions, Entrepreneurship: Theory & Practice 18 (4), 63-77.
Brace, N., Kemp, R., Snelgar, R., 2009. SPSS for Psychologists. Palgrave Macmillan Hampshire.
Brandstätter, V., Lengfelder, A., Gollwitzer, P.M., 2001. Implementation Intentions and Efficient Action Initiation. Journal of Personality and Social Psychology 81 (5), 946.
Brännback, M., Carsrud, A., Elfving, J., Kickul, J., Krueger, N., 2006. Why Replicate Entrepreneurial Intentionality Studies? Prospects, Perils, and Academic Reality. In: SMU Edge Conference, Singapore.
Breiman, L., 1992. The Little Bootstrap and Other Methods for Dimensionality Selection in Regression: X-Fixed Prediction Error, Journal of the American Statistical Association 87 (419), 738-754.
Bremmer, I., 2009. State Capitalism Comes of Age: The End of the Free Market? Foreign Affairs , 40-55.
Bridge, S., O'Neill, K., Martin, F., Cromie, S., 2009. Understanding Enterprise: Entrepreneurship and Small Business. Palgrave Macmillan.
Brockhaus Sr, R.H., 1980. Risk Taking Propensity of Entrepreneurs, Academy of Management Journal, 509-520.
Brockhaus, R.H., 2001. Entrepreneurship Education: A Global View. Ashgate.
Brockhaus, R.H., Horwitz, P.S., 1982. The Psychology of the Entrepreneur, Encyclopedia of Entrepreneurship 39, 71.
Brockhaus, R.H., Nord, W.R., 1979. An Exploration of Factors Affecting the Entrepreneurial Decision: Personal Characteristics Vs. Environmental Conditions, Proceedings of the National Academy of Management 39, 364-368.
Brockhaus, R.H., Horwitz, P., 1986. The Psychology of the Entrepreneur, 1996) Entrepreneurship: Critical Perspectives on Business and Management 2, 260-283.
Brodsky, M.A., 1993. Successful Female Corporate Managers and Entrepreneurs, Group & Organization Management 18 (3), 366.
Bruneel, J., Ratinho, T., Clarysse, B., Groen, A., 2012. The Evolution of Business Incubators: Comparing Demand and Supply of Business Incubation Services Across Different Incubator Generations, Technovation 32 (2), 110-121.

Bruton, G.D., Ahlstrom, D., Han-Lin Li, 2010. Institutional Theory and Entrepreneurship: Where are we Now and Where do we Need to Move in the Future? Entrepreneurship: Theory & Practice 34 (3), 421-440.
Bruton, G.D., Ahlstrom, D., Obloj, K., 2008. Entrepreneurship in Emerging Economies: Where are we Today and Where should the Research Go in the Future, Entrepreneurship Theory and Practice 32 (1), 1-14.
Bruyat, C., Julien, P., 2001. Defining the Field of Research in Entrepreneurship, Journal of Business Venturing 16 (2), 165-180.
Bryman, A., Bell, E., 2011. Business Research Methods. Oxford University Press, Oxford.
Buchanan, D., Boddy, D., McCalman, J., 1986. Getting in, Getting on, Getting Out, Getting Back. University of Glasgow Department of Management Studies.
Buchanan, D., Bryman, A., 2009. The SAGE Handbook of Organizational Research Methods. Sage Publications Ltd.
Burke, A.E., FitzRoy, F.R., Nolan, M.A., 2000. When Less is More: Distinguishing between Entrepreneurial Choice and Performance, Oxford Bulletin of Economics and Statistics 62 (5), 565-587.
Burns, R.B., Burns, R.A., 2008. Business Research Methods and Statistics using SPSS. SAGE Publications Ltd.
Burrell, G., Morgan, G., 1979. Sociological Paradigms and Organisational Analysis: Elements of the Sociology of Corporate Life.
Busenitz, L.W., 1999. Entrepreneurial Risk and Strategic Decision Making, The Journal of Applied Behavioral Science 35 (3), 325-340.
Busenitz, L.W., Barney, J.B., 1997. Differences between Entrepreneurs and Managers in Large Organizations: Biases and Heuristics in Strategic Decision-Making, Journal of Business Venturing 12 (1), 9-30.
Busenitz, L.W., Gómez, C., Spencer, J.W., 2000. Country Institutional Profiles: Unlocking Entrepreneurial Phenomena, Academy of Management Journal 43 (5), 994-1003.
Busenitz, L.W., Lau, C.M., 1996. A Cross-Cultural Cognitive Model of New Venture Creation, Entrepreneurship Theory and Practice 20, 25-40.
Business, D., 2010. Doing Business 2011: Making a Difference for Entrepreneurs, Washington: The World Bank.
Byabashaija, W., Katono, I., 2011. The Impact of College Entrepreneurial Education on Entrepreneurial Attitudes and Intention to Start a Business in Uganda, Journal of Developmental Entrepreneurship (JDE) 16 (01), 127-144.
Bygrave, W.D., Hofer, C.W., 1991. Theorizing about Entrepreneurship, Entrepreneurship: Theory and Practice 16 (2), 13-22.
Bygrave, W.D., 1989. The Entrepreneurship Paradigm (I): A Philosophical Look at its Research Methodologies, Entrepreneurship: Theory & Practice 14 (1), 7-26.
CABI, 2014. Canadian Association of Business Incubation, http://www.cabi.ca/business-incubation.php accessed on 20.04.2014.
Caird, S., 1991. Testing Enterprising Tendency in Occupational Groups, British Journal of Management 2 (4), 177.
Calice, P., Chando, V.M., Sekioua, S., 2012. Bank Financing to Small and Medium Enterprises in East Africa: Findings of a Survey in Kenya, Tanzania, Uganda and Zambia.
Caliendo, M., 2013. Endogeneity in Entrepreneurship Research, Applied Econometrics Research Seminar Paper, University of Potsdam
Campbell, D.T., Fiske, D.W., 1959. Convergent and Discriminant Validation by the Multitrait-Multimethod Matrix. Psychological Bulletin 56 (2), 81.
Cantillon, R., 2010. Essay on Economic Theory, An. English Translation of the 1755 French Essay by Saucier C. and Edited by Thornton M. Published by The Ludwig von Mises Institute.
Cantillon, R., 1755. Essay on the Nature of General Commerce.
Carland, J.W., Hoy, F., Boulton, W.R., Carland, J.A.C., 1984. Differentiating Entrepreneurs from Small Business Owners: A Conceptualization, Academy of Management Review, 354-359.

Carr, J.C., Sequeira, J.M., 2007. Prior Family Business Exposure as Intergenerational Influence and Entrepreneurial Intent: A Theory of Planned Behavior Approach, Journal of Business Research 60 (10), 1090-1098.
Carree, M., Van Stel, A., Thurik, R., Wennekers, S., 2002. Economic Development and Business Ownership: An Analysis using Data of 23 OECD Countries in the Period 1976–1996, Small Business Economics 19 (3), 271-290.
Carree, M.A., Thurik, A.R., 2010. The Impact of Entrepreneurship on Economic Growth, Handbook of Entrepreneurship Research, 557-594.
Carter, N.M., Gartner, W.B., Reynolds, P.D., 1996. Exploring Start-Up Event Sequences, Journal of Business Venturing 11 (3), 151-166.
Carter, N.M., Gartner, W.B., Shaver, K.G., Gatewood, E.J., 2003. The Career Reasons of Nascent Entrepreneurs, Journal of Business Venturing 18 (1), 13-39.
Cassidy, T., Lynn, R., 1989. A Multifactorial Approach to Achievement Motivation: The Development of a Comprehensive Measure. Journal of Occupational Psychology.
Casson, M., 1995. Entrepreneurship and Business Culture (Studies in the Economics of Trust)(V. 1). Edward Elgar, Aldershot.
Casson, M., 1982. The Entrepreneur: An Economic Theory. Rowman & Littlefield Pub Inc.
Cattell, R.B., 1966. The Scree Test for the Number of Factors, Multivariate Behavioral Research 1 (2), 245-276.
CBI - NUS, 2011. Universities must Embed Employability Skills in Course Structures - CBI/NUS, Confederation of British Industries and National Union of Students Report, UK.
CEEC, 2012. Citizens Economic Empowerment Commission Collects K117 Billion from the K206 Billion Disbursed since its Inception in 2008; December 2012 Media Report, CEEC Report Accessed on 20 June 2013 from http://www.lusakatimes.com/2012/12/22/ceec-recovers-k117-billion-k206-billion-disbursed/.
Chamorro-Premuzic, T., Furnham, A., 2003. Personality Traits and Academic Examination Performance, European Journal of Personality 17 (3), 237-250.
Chell, E., 2001. Entrepreneurship: Globalization, Innovation and Development. Cengage Learning.
Chell, E., 1985. The Entrepreneurial Personality: A Few Ghosts Laid to Rest? International Small Business Journal 3 (3), 43.
Chell, E., Haworth, J.M., Brearley, S.A., 1991. The Entrepreneurial Personality. Routledge London.
Chell, E., 2000. Towards Researching the"Opportunistic Entrepreneur": A Social Constructionist Approach and Research Agenda, European Journal of Work and Organizational Psychology 9 (1), 63-80.
Chen, C.C., Greene, P.G., Crick, A., 1998. Does Entrepreneurial Self-Efficacy Distinguish Entrepreneurs from Managers? Journal of Business Venturing 13 (4), 295-316.
Chen, G., Gully, S.M., Eden, D., 2004. General Self-Efficacy and Self-Esteem: Toward Theoretical and Empirical Distinction between Correlated Self-Evaluations, Journal of Organizational Behavior 25 (3), 375-395.
Cherryholmes, C.H., 1992. Notes on Pragmatism and Scientific Realism, Educational Researcher 21 (6), 13-17.
Chigunta, F., 2002. The Socio-Economic Situation of Youth in Africa: Problems, Prospects and Options, A Paper Presented at the Youth Employment Summit, Alexandria, Egypt, 1-13.
Chigunta, F., Schnurr, J., James-Wilson, D., Torres, V., Creation, J., 2005. Being “real” about Youth Entrepreneurship in Eastern and Southern Africa, SEED Working Paper 72.
Child, J., McGrath, R.G., 2001. Organizations Unfettered: Organizational Form in an Information-Intensive Economy, Academy of Management Journal, 1135-1148.
Chimanga, K., 2007. University Graduates and Firm Creation in Preference to Professional Practice in Zambia, MBA Thesis, Copperbelt University.
Clark, B.W., Davis, C.H., Harnish, V.C., 1984. Do Courses in Entrepreneurship Aid in New Venture Creation? Journal of Small Business Management 22 (2), 26-31.

Clarke, K.A., 2005. The Phantom Menace: Omitted Variable Bias in Econometric Research, Conflict Management and Peace Science 22 (4), 341-352.
Clarysse, B., Wright, M., Lockett, A., Van de Velde, E., Vohora, A., 2005. Spinning Out New Ventures: A Typology of Incubation Strategies from European Research Institutions, Journal of Business Venturing 20 (2), 183-216.
Cole, A.H., 1942. Entrepreneurship as an Area of Research, The Journal of Economic History 2 (S1), 118-126.
Collins, C.J., Hanges, P.J., Locke, E.A., 2004a. The Relationship of Achievement Motivation to Entrepreneurial Behavior: A Meta-Analysis, Human Performance 17 (1), 95-117.
Collins, L., Hannon, P.D., Smith, A., 2004b. Enacting Entrepreneurial Intent: The Gaps between Student Needs and Higher Education Capability, Education Training 46 (8/9), 454-463.
Colombotos, J., 1969. Personal Versus Telephone Interviews: Effect on Responses. Public Health Reports 84 (9), 773.
Compte, A., 1975. Auguste Compte and Positivism: The Essential Writings, Ed. Gertrud Lenzer.
Compte, A., 1854. The Positive Philosophy of Auguste Compte, .
Consultants, N., 2008. Survey of Entrepreneurship in Higher Education in Europe, FORA, ECON Pöyry.
Cook, M., 2010. Explaining the Determinants of Manufacturing and Non-Manufacturing FDI Inflows in Five UK Regions, International Journal of Management Practice 4 (1), 1-26.
Cook, M., 2008. Regional and Firm Level Determinants of International Competitiveness: An Examination of SME's Role, Capability and Competencies, PhD Thesis, University of Wolverhampton, UK.
Cope, J., 2005. Toward a Dynamic Learning Perspective of Entrepreneurship, Entrepreneurship Theory and Practice 29 (4), 373-397.
Costa Jr, P.T., McCrae, R.R., 1992. The Five-Factor Model of Personality and its Relevance to Personality Disorders, Journal of Personality Disorders 6 (4), 343-359.
Cox, L., Mueller, S., Moss, S., 2002. The Impact of Entrepreneurship Education on Entrepreneurial Self-Efficacy, International Journal of Entrepreneurship Education 1 (2), 229-245.
Cresswell, C., 1999. A Review of Enterprise Education in Universities, Welsh Enterprise Institute Report, University of Glamorgan, Pontypridd.
Creswell, J.W., Clark, V.L.P., 2007. Designing and Conducting Mixed Methods Research. Wiley Online Library.
Creswell, J., Plano-Clark, V., 2011. Designing and Conducting Mixed Methods Research,(Ed.) Thousand Oaks: Sage.
Creswell, J.W., 2014. Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. SAGE, Los Angeles, Calif.
Creswell, J.W., 2009. Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. SAGE, London.
Criscuolo, C., Gal, P., Menon, C., 2014. The Dynamics of Employment Growth: New Evidence from 17 OECD Countries and Brazil, OECD Science, Technology and Industry Policy Papers, no. 14, OECD Publishing.
Cromie, S., 2000. Assessing Entrepreneurial Inclinations: Some Approaches and Empirical Evidence, European Journal of Work and Organizational Psychology 9 (1), 7-30.
Cromie, S., 1987. Motivations of Aspiring Male and Female Entrepreneurs, Journal of Organizational Behavior 8 (3), 251-261.
Cronbach, L.J., 1951. Coefficient Alpha and the Internal Structure of Tests, Psychometrika 16 (3), 297-334.
Crotty, M., 1998. The Foundations of Social Research: Meaning and Perspective in the Research Process. Sage.
CSO, 2013. Zambian 2010 Census Data Reports, Central Statistical Office in Zambia.
CSO, 2011a. Central Statistical Office, 2008 Labour Force Survey Report, Zambia.

CSO, 2011b. Central Statistical Office 2010/2011 Quarterly Employment and Earnings Inquiry Report, Zambia.
Culkin, N., 2013. Beyond being a Student: An Exploration of Student and Graduate Start-Ups (SGSUs) Operating from University Incubators, Journal of Small Business and Enterprise Development 20 (3), 634-649.
Cunningham, J.B., Lischeron, J., 1991. Defining Entrepreneurship, Journal of Small Business Management 29 (1), 45-61.
Curran, J., Burrows, R., 1987. Ethnographic Approaches to the Study of the Small Business Owner, Small Business Development: Some Current Issues, Aldershot: Avebury , 3-24.
Danermark, B., 2002. Explaining Society: Critical Realism in the Social Sciences. Psychology Press.
Davey, T., Plewa, C., Struwig, M., 2011. Entrepreneurship Perceptions and Career Intentions of International Students, Education Training 53 (5), 335-352.
Davidsson, P., 1995. Determinants of Entrepreneurial Intentions.
Davidsson, P., Honig, B., 2003. The Role of Social and Human Capital among Nascent Entrepreneurs, Journal of Business Venturing 18 (3), 301-331.
Davidsson, P., 2004. Researching Entrepreneurship. Springer, New York.
Davidsson, P., Wiklund, J., 1997. Values, Beliefs and Regional Variations in New Firm Formation Rates, Journal of Economic Psychology 18 (2-3), 179-199.
Davies, H., 2002. Enterprise and the Economy in Education.
Davis, F.B., 1964. Educational Measurements and their Interpretation. Wadsworth Publishing Company.
De Clercq, D., Lim, D.S.K., Oh, C.H., 2011. Individual-Level Resources and New Business Activity: The Contingent Role of Institutional Context, Entrepreneurship Theory and Practice 37 (2), 303-330.
De Faoite, D., Henry, C., Johnston, K., van der Sijde, P., 2003. Education and Training for Entrepreneurs: A Consideration of Initiatives in Ireland and the Netherlands, Education Training 45 (8/9), 430-438.
De Fruyt, F., Mervielde, I., 1996. Personality and Interests as Predictors of Educational Streaming and Achievement, European Journal of Personality 10 (5), 405-425.
De Grez, L., Van Lindt, D., 2012. The Influence of a 'Learning-by-Doing' Program on Entrepreneurial Perceptions of Economics Students: 20-21 September 2012; pages:156-162. In: European Conference on Innovation and Entrepreneurship Edition:7, Santarem (Portugal).
de Kok, J., de Wit, G., 2014. Do Small Businesses Create More Jobs? New Evidence for Europe, Small Business Economics, Springer 42 (2), 283-295.
De Noble, A.F., Jung, D., Ehrlich, S.B., 1999. Entrepreneurial Self-Efficacy: The Development of a Measure and its Relationship to Entrepreneurial Action, Frontiers of Entrepreneurship Research, 73-87.
De Soto, H., 2003. Mystery of Capital: Why Capitalism Triumphs in the West and Fails Everywhere Else. Basic books.
De Vries, M., 1977. The Entrepreneurial Personality: A Person at the Crossroads, Journal of Management Studies 14 (1), 34-57.
Deakins, D., Freel, M.S., Mason, K., 1996. Entrepreneurship and Small Firms. McGraw-Hill New York.
Deakins, D., Majmudar, M., Paddison, A., 1997. Developing Success Strategies for Ethnic Minorities in Business: Evidence from Scotland, Journal of Ethnic and Migration Studies 23 (3), 325-342.
Delmar, F., Davidsson, P., 2000. Where do they Come from? Prevalence and Characteristics of Nascent Entrepreneurs, Entrepreneurship & Regional Development 12 (1), 1-23.
Delmar, F., Shane, S., 2002. What Firm Founders do: A Longitudinal Study of the Start-Up Process, University of Illinois at Urbana-Champaign's Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship.
Denzin, N.K., 1978. The Research Act: A Theoretical Introduction to Research Methods.
Denzin, N.K., 1970. The Research Act in Sociology: A Theoretical Introduction to Sociological Methods.

Denzin, N.K., Lincoln, Y.S., 2011. The SAGE Handbook of Qualitative Research. Sage.
Denzin, N.K., Lincoln, Y.S., Smith, L.T., 2008. Handbook of Critical and Indigenous Methodologies. Sage.
DeTienne, D.R., Chandler, G.N., 2004. Opportunity Identification and its Role in the Entrepreneurial Classroom: A Pedagogical Approach and Empirical Test, Academy of Management Learning & Education 3 (3), 242-257.
DeVellis, R.F., 2003. Scale Development: Theory and Applications Second Edition (Applied Social Research Methods).
Dewey, J., 1931. George Herbert Mead, The Journal of Philosophy 28 (12), 309-314.
Dictionary, O.E., 2011. Oxford University Press. 2011.
Dillman, D.A., 2000. Mail and Internet Surveys: The Tailored Design Method. Wiley New York.
DiMaggio, P.J., Powell, W.W., 1983. The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields, American Sociological Review , 147-160.
do Paço, A., Ferreira, J.M., Raposo, M., Rodrigues, R.G., Dinis, A., 2013. Entrepreneurial Intentions: Is Education enough? International Entrepreneurship and Management Journal, 1-19.
Dohse, D., Walter, S., 2012. Knowledge Context and Entrepreneurial Intentions among Students, Small Business Economics 39 (4), 877-895.
Douglas, E.J., Shepherd, D.A., 2002. Self-Employment as a Career Choice: Attitudes, Entrepreneurial Intentions, and Utility Maximization, Entrepreneurship Theory and Practice 26 (3), 81-90.
Draycott, M., Rae, D., 2011. Enterprise Education in Schools and the Role of Competency Frameworks, International Journal of Entrepreneurial Behaviour & Research 17 (2), 127-145.
Drucker, P.F., 1985. Entrepreneurial Strategies, California Management Review 27 (2), 9-25.
Dyer, J.,W.Gibb, 1994. Toward a Theory of Entrepreneurial Careers, Entrepreneurship: Theory & Practice 19 (2), 7-21.
Ebner, A., 2006. Institutions, Entrepreneurship, and the Rationale of Government: An Outline of the Schumpeterian Theory of the State, Journal of Economic Behavior & Organization 59 (4), 497-515.
Edelman, L.F., Manolova, T.S., Brush, C.G., 2008. Entrepreneurship Education: Correspondence between Practices of Nascent Entrepreneurs and Textbook Prescriptions for Success, Academy of Management Learning & Education 7 (1), 56-70.
Edwards, L.J., Muir, E.J., 2005. Promoting Entrepreneurship at the University of Glamorgan through Formal and Informal Learning, Journal of Small Business and Enterprise Development 12 (4), 613-626.
Engle, R., Schlaegel, C., Dimitriadi, N., 2011. Institutions and Entrepreneurial Intent:A Cross-Country Study, Journal of Developmental Entrepreneurship 16 (2), 227-250.
Eriksson, K., Lindström, U.Å, 1997. Abduction—a Way to Deeper Understanding of the World of Caring, Scandinavian Journal of Caring Sciences 11 (4), 195-198.
Ertuna, Z.I., Gurel, E., 2011. The Moderating Role of Higher Education on Entrepreneurship, Education Training 53 (5), 387-402.
Fairlie, R.W., Holleran, W., 2011. Entrepreneurship Training, Risk Aversion and Other Personality Traits: Evidence from a Random Experiment, Journal of Economic Psychology .
Fairlie, R.W., Robb, A., 2006. Families, Human Capital, and Small Business: Evidence from the Characteristics of Business Owners Survey, Indus.& Lab.Rel.Rev. 60, 225.
Falck, O., Heblich, S., Luedemann, E., 2012. Identity and Entrepreneurship: Do School Peers Shape Entrepreneurial Intentions? Small Business Economics 39 (1), 39-59.
Fallon, G., Cook, M., Billimoria, A., 2001. What Factors Attract Foreign Direct Investment? Teaching Business and Economics 5, 13-18
Farashah, A.D., 2013. The Process of Impact of Entrepreneurship Education and Training on Entrepreneurship Perception and Intention: Study of Educational System of Iran, Education Training 55 (8/9), 9-9.

Faulconer, J.E., Williams, R.N., 1985. Temporality in Human Action: An Alternative to Positivism and Historicism. American Psychologist 40 (11), 1179.
Fayolle, A., 2007. Handbook of Research in Entrepreneurship Education: A General Perspective. Edward Elgar Pub.
Fayolle, A., Gailly, B., 2009. Assessing the Impact of Entrepreneurship Education: A Methodology and Three Experiments from French Engineering Schools, Handbook of University-Wide Entrepreneurship Education, 203.
Fayolle, A., Gailly, B., 2004. Using the Theory of Planned Behaviour to Assess Entrepreneurship Teaching Programs: A First Experimentation. In: IntEnt2004 Conference.
Fayolle, A., Gailly, B., Lassas-Clerc, N., 2006a. Assessing the Impact of Entrepreneurship Education Programmes: A New Methodology, Journal of European Industrial Training 30 (9), 701-720.
Fayolle, A., Gailly, B., Lassas-Clerc, N., 2006b. Effect and Counter-Effect of Entrepreneurship Education and Social Context on Student's Intentions, Estudios De Economía Aplicada 24 (2), 509-524.
Fayolle, A., Liñán, F., 2014. The Future of Research on Entrepreneurial Intentions, Journal of Business Research 67 (5), 663-666.
Fielding, J., Fielding, N., 2008. Synergy and Synthesis: Integrating Qualitative and Quantitative Data.
Fielding, N., 2010. Mixed Methods Research in the Real World, International Journal of Social Research Methodology 13 (2), 127-138.
Fielding, N.G., 2012. Triangulation and Mixed Methods Designs Data Integration with New Research Technologies, Journal of Mixed Methods Research 6 (2), 124-136.
Fielding, N.G., Fielding, J.L., 1986. Linking Data: The Articulation of Qualitative and Quantitative Methods in Social Research, Beverly Hills (CA): Sage , 41-53.
Fiet, J.O., 2001. The Pedagogical Side of Entrepreneurship Theory, Journal of Business Venturing 16 (2), 101-117.
Fishbein, M., Ajzen, I., 1975. Belief, Attitude, Intention and Behaviour: An Introduction to Theory and Research. Addison-Wesley.
Fishbein, M., Ajzen, I., 2011. Predicting and Changing Behavior: The Reasoned Action Approach. Taylor & Francis.
Fitzsimmons, J.R., Douglas, E.J., 2011. Interaction between Feasibility and Desirability in the Formation of Entrepreneurial Intentions, Journal of Business Venturing 26 (4), 431-440.
Forbes, D.P., 1999. Cognitive Approaches to New Venture Creation, International Journal of Management Reviews 1 (4), 415.
Fraboni, M., Saltstone, R., 1990. First and Second Generation Entrepreneur Typologies: Dimensions of Personality. Journal of Social Behavior & Personality.
Frank, H., Lueger, M., Korunka, C., 2007. The Significance of Personality in Business Start-Up Intentions, Start-Up Realization and Business Success, Entrepreneurship & Regional Development 19 (3), 227-251.
Frederking, L.C., 2004. A Cross-National Study of Culture, Organization and Entrepreneurship in Three Neighbourhoods, Entrepreneurship & Regional Development 16 (3), 197-215.
Fretschner, M., Weber, S., 2013. Measuring and Understanding the Effects of Entrepreneurial Awareness Education, Journal of Small Business Management 51 (3), 410-428.
Fritz, M.S., MacKinnon, D.P., 2007. Required Sample Size to Detect the Mediated Effect, Psychological Science (Wiley-Blackwell) 18 (3), 233-239.
Galloway, L., Anderson, M., Brown, W., Wilson, L., 2005. Enterprise Skills for the Economy, Education Training 47 (1), 7-17.
Gartner, W., Thomas, R., 1989. Factors which Influence a New Firm's Ability to Accurate Forecast New Product Sales, Frontiers of Entrepreneurship Research, S , 408-421.
Gartner, W.B., 1990. What are we Talking about when we Talk about Entrepreneurship? Journal of Business Venturing 5 (1), 15-28.
Gartner, W.B., 1989a. Some Suggestions for Research on Entrepreneurial Traits and Characteristics, Entrepreneurship Theory and Practice 14 (1), 27-37.

Gartner, W.B., Mitchell, T.R., Vesper, K.H., 1989. A Taxonomy of New Business Ventures, Journal of Business Venturing 4 (3), 169-186.
Gartner, W.B., Thomas, R.J., 1993. Factors Affecting New Product Forecasting Accuracy in New Firms, Journal of Product Innovation Management 10 (1), 35-52.
Gartner, W., 2010. A New Path to the Waterfall: A Narrative on a use of Entrepreneurial Narrative, International Small Business Journal 28 (1), 6-19.
Gartner, W.B., 1989b. 'Who is an Entrepreneur?' is the Wrong Question, Entrepreneurship Theory and Practice 13 (4), 47.
Gartner, W.B., 1985. A Conceptual Framework for Describing the Phenomenon of New Venture Creation, Academy of Management Review 10 (4), 696-706.
Gaspar, F.C., 2009. The Stimulation of Entrepreneurship through Venture Capital and Business Incubation, International Journal of Entrepreneurship and Innovation Management 9 (4), 396-415.
Gasse, Y., Tremblay, M., 2011. Entrepreneurial Beliefs and Intentions: A Cross-Cultural Study of University Students in Seven Countries, International Journal of Business 16 (4), 303.
Gatewood, E.J., Shaver, K.G., Gartner, W.B., 1995. A Longitudinal Study of Cognitive Factors Influencing Start-Up Behaviors and Success at Venture Creation, Journal of Business Venturing 10 (5), 371-391.
Gedeon, S., 2010. What is Entrepreneurship? Entrepreneurial Practice Review 1 (3).
Gendron, G., Case, S., Goldman, M., Golisano, T., Laybourne, G., Taylor, J., Webber, A., 2004. Practitioners' Perspectives on Entrepreneurship Education: An Interview with Steve Case, Matt Goldman, Tom Golisano, Geraldine Laybourne, Jeff Taylor, and Alan Webber, Academy of Management Learning & Education , 302-314.
Gergen, K.J., 1985. The Social Constructionist Movement in Modern Psychology. American Psychologist 40 (3), 266.
Giacomin, O., Janssen, F., Pruett, M., Shinnar, R.S., Llopis, F., Toney, B., 2011. Entrepreneurial Intentions, Motivations and Barriers: Differences among American, Asian and European Students, International Entrepreneurship and Management Journal 7 (2), 219-238.
Gibb, A., 2007. Creating the Entrepreneurial University: Do we Need a Wholly Different Model of Entrepreneurship, Handbook of Research in Entrepreneurship Education, A General Perspective 1, 67-103.
Gibb, A., Cotton, J., 1998a. Work Futures and the Role of Entrepreneurship and Enterprise in Schools and further Education. In: Background Keynote Paper to the Creating the Leading Edge Conference.
Gibb, A., Hannon, P., 2005. Towards the Entrepreneurial University, Policy Paper 3.
Gibb, A., Ritchie, J., 1982. Understanding the Process of Starting Small Businesses, International Small Business Journal 1 (1), 26-45.
Gibb, A.A., 2000. SME Policy, Academic Research and the Growth of Ignorance, Mythical Concepts, Myths, Assumptions, Rituals and Confusions, International Small Business Journal 18 (3), 13.
Gibb, A., Cotton, J., 1998b. Entrepreneurship in Schools and College Education–creating the Leading Edge. In: Background Paper Presented at the Conference on Work Futures and the Role of Entrepreneurship and Enterprise in Schools and further Education.
Gibb, A., 2002. Creating Conducive Environments for Learning and Entrepreneurship: Living with, Dealing with, Creating and Enjoying Uncertainty and Complexity, Industry and Higher Education 16 (3), 135-148.
Gibcus, P., de Kok, J., Snijders, J., Smit, L., van der Linden, B., 2012. Effects and Impact of Entrepreneurship Programmes in European Higher Education.
Gilad, B., Levine, P., 1986. A Behavioral Model of Entrepreneurial Supply, Journal of Small Business Management 24 (4), 45-53.
Gilbert, A., 2002. On the Mystery of Capital and the Myths of Hernando De Soto: What Difference does Legal Title make? International Development Planning Review 24 (1), 1-19.
Gill, J., Johnson, P., 2002. Research Methods for Managers. Sage, London.

Glaser, B.G., Strauss, A.L., 2009. The Discovery of Grounded Theory: Strategies for Qualitative Research. Transaction Books.
Gnyawali, D.R., Fogel, D.S., 1994. Environments for Entrepreneurship Development: Key Dimensions and Research Implications, Entrepreneurship: Theory & Practice 18 (4), 43-62.
Gollwitzer, P.M., 1996. The Volitional Benefits of Planning, The Psychology of Action: Linking Cognition and Motivation to Behavior 13, 287-312.
Gomez-Mejia, L., Balkin, D.B., 1989. Effectiveness of Individual and Aggregate Compensation Strategies, Industrial Relations 28 (3).
Gray, C., 2006. Absorptive Capacity, Knowledge Management and Innovation in Entrepreneurial Small Firms, International Journal of Entrepreneurial Behaviour & Research 12 (6), 345-360.
Green, W.S., 2009. From Commerce to Culture: Entrepreneurship in the Mainstream, Handbook of University-Wide Entrepreneurship Education, Edward Elgar, Northampton, MA, 15-20.
Greenfield, S.M., Strickon, A., 1986. Entrepreneurship and Social Change, University Press of America (2), 4-18.
Greenfield, S.M., Strickon, A., 1981. A New Paradigm for the Study of Entrepreneurship and Social Change, Economic Development and Cultural Change 29 (3), 467-499.
Greenwald, A.G., Banaji, M.R., 1995. Implicit Social Cognition: Attitudes, Self-Esteem, and Stereotypes. Psychological Review 102 (1), 4.
Guba, E.G., 1990. The Paradigm Dialog. Sage.
Guba, E.G., Lincoln, Y.S., 1994. Competing Paradigms in Qualitative Research, Handbook of Qualitative Research 2, 163-194.
Guerrero, M., Rialp, J., Urbano, D., 2008. The Impact of Desirability and Feasibility on Entrepreneurial Intentions: A Structural Equation Model, International Entrepreneurship and Management Journal 4 (1), 35-50.
Gurel, E., Altinay, L., Daniele, R., 2010. Tourism Students' Entrepreneurial Intentions, Annals of Tourism Research 37 (3), 646-669.
Guzman-Cuevas, J., 1994. Towards a Taxonomy of Entrepreneurial Theories, International Small Business Journal 12, 77+.
Haase, H., Lautenschlager, A., Rena, R., 2011. The Entrepreneurial Mind-Set of University Students: A Cross-Cultural Comparison between Namibia and Germany, International Journal of Education Economics and Development 2 (2), 113-129.
Hair, J., Black, W., Babin, B., Anderson, R., Tatham, R., 2006. Multivariate Data Analysis Sixth Edition Pearson Education, New Jersey.
Hannon, P.D., 2005. Philosophies of Enterprise and Entrepreneurship Education and Challenges for Higher Education in the UK, The International Journal of Entrepreneurship and Innovation 6 (2), 105-114.
Hansemark, O.C., 1998. The Effects of an Entrepreneurship Programme on Need for Achievement and Locus of Control of Reinforcement, International Journal of Entrepreneurial Behaviour & Research 4 (1), 28-50.
Hansemark, O.C., 2003. Need for Achievement, Locus of Control and the Prediction of Business Start-Ups: A Longitudinal Study, Journal of Economic Psychology 24 (3), 301-319.
Harrison, R.T., Leitch, C., 2010. Voodoo Institution Or Entrepreneurial University? Spin-Off Companies, the Entrepreneurial System and Regional Development in the UK, Regional Studies 44 (9), 1241-1262.
Hawley, F.B., 1907. Enterprise and the Productive Process... Putnam.
Hayek, F.A., 1945. The use of Knowledge in Society, The American Economic Review 35 (4), 519-530.
Hayes, A.F., 2013. Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach. Guilford Press.
Hayes, A.F., 2009. Beyond Baron and Kenny: Statistical Mediation Analysis in the New Millennium, Communication Monographs 76 (4), 408-420.
Hébert, R.F., 1981. Richard Cantillon's Early Contributions to Spatial Economics, Economica 48 (189), 71-77.

Hempel, C.G., Oppenheim, P., 1948. Studies in the Logic of Explanation, Philosophy of Science 15 (2), 135-175.
Henley, A., 2007. Entrepreneurial Aspiration and Transition into Self-Employment: Evidence from British Longitudinal Data, Entrepreneurship & Regional Development 19 (3), 253-280.
Henry, C., Hill, F., Leitch, C., 2005a. Entrepreneurship Education and Training: Can Entrepreneurship be Taught? Part I, Education Training 47 (2), 98-111.
Henry, C., Hill, F., Leitch, C., 2005b. Entrepreneurship Education and Training: Can Entrepreneurship be Taught? Part II, Education Training 47 (3), 158-169.
Henry, C., Hill, F., Leitch, C., 2003. Entrepreneurship Education and Training. Ashgate Pub Ltd.
Henry, C., 2013. Entrepreneurship Education in HE: Are Policy Makers Expecting Too Much? Education Training 55 (8/9), 7-7.
Henry, C., Hill, F.M., Leitch, C.M., 2004. The Effectiveness of Training for New Business Creation: A Longitudinal Study, International Small Business Journal 22, 249+.
Hermann, B., 2011. Personality Aspects of Entrepreneurship: A Look at Five Meta-Analyses, Personality and Individual Differences 51 (3), 222-230.
Heron, J., 1996. Co-Operative Inquiry: Research into the Human Condition. Sage.
Herrero, E., Van Dorp, K., 2012. Methodology and Evaluation of Entrepreneurship Courses, International Journal of Business Research and Management (IJBRM) 1 (3), 132-155.
Herrington, M., Kelley, D., 2012. African Entrepreneurship: Sub□Saharan Africa Regional Report, Global Entrepreneurship Monitor, 2012.
Heriot, K.C., Campbell, N.D., Finney, R.Z., 2004. Omitted Variable Bias in the Link between Planning and Performance, New England Journal of Entrepreneurship 7(2), 6.
Herrmann, K., Hannon, P., Cox, J., Ternouth, P., Crowley, T., 2008. Developing Entrepreneurial Graduates: Putting Entrepreneurship at the Centre of Higher Education, Council for Industry and Higher Education (CIHE), National Council for Graduate Entrepreneurship (NCGE) and National Endowment for Science, Technology and the Arts (NESTA), London.
Hessels, J., van Stel, A., 2011. Entrepreneurship, Export Orientation, and Economic Growth, Small Business Economics 37 (2), 255-268.
Highfield, R., Smiley, R., 1987. New Business Starts and Economic Activity: An Empirical Investigation, International Journal of Industrial Organization 5 (1), 51-66.
Hills, G.E., 1988. Variations in University Entrepreneurship Education: An Empirical Study of an Evolving Field, Journal of Business Venturing 3 (2), 109-122.
Hindle, K., 2007. Teaching Entrepreneurship at University: From the Wrong Building to the Right Philosophy, Handbook of Research in Entrepreneurship Education 1, 104-126.
Hindle, K., 2002. A Grounded Theory for Teaching Entrepreneurship using Simulation Games, Simulation & Gaming 33 (2), 236-241.
Hindle, K., Al-Shanfari, D., 2011. 2 Mapping the Landscape of New Venture Creation Research, Handbook of Research on New Venture Creation, 14.
Hindle, K., Klyver, K., Jennings, D.F., 2009. An “Informed” Intent Model: Incorporating Human Capital, Social Capital, and Gender Variables into the Theoretical Model of Entrepreneurial Intentions, Understanding the Entrepreneurial Mind, 35-50.
Hisrich, R.D., Brush, C.G., 1985. Women and Minority Entrepreneurs: A Comparative Analysis, Frontiers of Entrepreneurship Research, 566-587.
Hisrich, R.D., Peters, M.P., Shepherd, D., 2005. Entrepreneurship, 2005. McGraw-Hill.
Hisrich, R., Peters, M., 1995. Entrepreneurship–Starting, Developing and Managing a New Enterprise, Richard D., Inwin, INC, USA.
Hitt, M.A., Beamish, P.W., Jackson, S.E., Mathieu, J.E., 2007. Building Theoretical and Empirical Bridges Across Levels: Multilevel Research in Management, Academy of Management Journal 50 (6), 1385-1399.
Ho, Y., Wong, P., 2007. Financing, Regulatory Costs and Entrepreneurial Propensity, Small Business Economics 28 (2-3), 187-204.
Hock-Beng, C., 1990. Schumpeterian and Austrian Entrepreneurship: Unity within Duality, Journal of Business Venturing 5 (6), 341-347.

Hofstede, G.H., 1984. Culture's Consequences: International Differences in Work-Related Values. Sage Publications, Inc.
Hofstede, G.H., 2014. What about Zambia? http://geert-hofstede.com/zambia.html accessed 25 September 2014 10:15 AM UK
Holmes, T.J., Schmitz Jr, J.A., 1990. A Theory of Entrepreneurship and its Application to the Study of Business Transfers, Journal of Political Economy 98 (2), 265.
Honig, B., 2004. Entrepreneurship Education: Toward a Model of Contingency-Based Business Planning, Academy of Management Learning & Education 3 (3), 258-273.
Hoskisson, R.E., Covin, J., Volberda, H.W., Johnson, R.A., 2011. Revitalizing Entrepreneurship: The Search for New Research Opportunities, Journal of Management Studies.
House, R.J., Shane, S.A., Herold, D.M., 1996. Rumors of the Death of Dispositional Research are Vastly Exaggerated, Academy of Management Review 21 (1), 203-224.
Howell, J.M., Shea, C.M., Higgins, C.A., 2005. Champions of Product Innovations: Defining, Developing, and Validating a Measure of Champion Behavior, Journal of Business Venturing 20 (5), 641-661.
Hytti, U., O'Gorman, C., 2004. What is "enterprise Education"? an Analysis of the Objectives and Methods of Enterprise Education Programmes in Four European Countries, Education Training 46 (1), 11-23.
Iakovleva, T., Kolvereid, L., Stephan, U., 2011. Entrepreneurial Intentions in Developing and Developed Countries, Education Training 53 (5), 353-370.
ICMM, 2014. Enhancing Mining's Contribution to the Zambian Economy and Society, International Council for Mining and Metals Report.
ILO, 1993. International Labour Organisation (ILO) Resolution Concerning the International Classification of Status in Employment (ICSE), Standards and Guidelines:Resolutions Adopted by International Conferences of Labour Statisticians.
Jack, S.L., Anderson, A.R., 1999. Entrepreneurship Education within the Enterprise Culture: Producing Reflective Practitioners, International Journal of Entrepreneurial Behaviour & Research 5 (3), 110-125.
Jack, S.L., Anderson, A.R., 1998. Entrepreneurship Education within the Condition of Entreprenology. In: Proceedings of the Conference on Enterprise and Learning.
James, L.R., Brett, J.M., 1984. Mediators, Moderators, and Tests for Mediation. Journal of Applied Psychology 69 (2), 307.
Jamieson, I., 1984. Schools and Enterprise, Education for Enterprise 1 (1), 7-18.
Jenks, L.H., 1950. Approaches to Entrepreneurial Personality, Explorations in Entrepreneurial 2, 91-99.
Jick, T.D., 1979. Mixing Qualitative and Quantitative Methods: Triangulation in Action, Administrative Science Quarterly 24 (4), 602-611.
Johannisson, B., 1991. University Training for Entrepreneurship: Swedish Approaches, Entrepreneurship & Regional Development 3 (1), 67-82.
Johannisson, B., Landstrom, H., Rosenberg, J., 1998. University Training for Entrepreneurship—an Action Frame of Reference, European Journal of Engineering Education 23 (4), 477-496.
Johnson, G., Whittington, R., Scholes, K., Pyle, S., 2011. Exploring Strategy: Text & Cases. Financial Times Prentice Hall Harlow.
Johnston, R.B., Smith, S.P., 2010. 2. How Critical Realism Clarifies Validity Issues in Theory-Testing Research: Analysis and Case, Dennis N.Hart, Shirley D.Gregor Edition, Information Systems Foundations: The Role of Design Science, 21-47.
Jose, P.E., 2013. Doing Statistical Mediation and Moderation. Guilford Press.
Judd, C.M., Kenny, D.A., 2010. Data Analysis in Social Psychology: Recent and Recurring Issues. Wiley Online Library.
Judd, C.M., Kenny, D.A., 1981a. Estimating the Effects of Social Interventions.CUP Archive.
Judd, C.M., Kenny, D.A., 1981b. Process Analysis Estimating Mediation in Treatment Evaluations, Evaluation Review 5 (5), 602-619.
Judge, T.A., Erez, A., Bono, J.E., Thoresen, C.J., 2002. Are Measures of Self-Esteem, Neuroticism, Locus of Control, and Generalized Self-Efficacy Indicators of a Common Core Construct? Journal of Personality and Social Psychology 83 (3), 693.

Kaiser, H.F., 1970. A Second Generation Little Jiffy, Psychometrika 35 (4), 401-415.
Kaiser, H.F., Rice, J., 1974. Little Jiffy, Mark IV. Educational and Psychological Measurement.
Katz, J., 1992. A Psychosocial Cognitive Model of Employment Status Choice, Entrepreneurship: Theory and Practice 17.
Katz, J., Gartner, W.B., 1988. Properties of Emerging Organizations, Academy of Management Review 13 (3), 429-441.
Kautonen, T., van Gelderen, M., Fink, M., 2013. Robustness of the Theory of Planned Behavior in Predicting Entrepreneurial Intentions and Actions, Entrepreneurship Theory and Practice, n/a-n/a.
Keeble, D., Bryson, J., Wood, P., 1992. The Rise and Role of Small Service Firms in the United Kingdom, International Small Business Journal 11 (1), 11-22.
Kelley, D., Bosma, N., Amorós, J.E., 2011. Global Entrepreneurship Monitor 2010 Global Report, Babson College and Universidad Del Desarrollo.
Kelley, D.J., Singer, S., Herrington, M.D., 2012. The Global Entrepreneurship Monitor, .
Kenny, D.A., 2008. Reflections on Mediation, Organizational Research Methods 11 (2), 353-358.
Keynes, J.M., 1936. The General Theory of Employment Interest and Money. the Collected Writings of John Maynard Keynes Vol. VII.
Kilby, P., 1971. Entrepreneurship and Economic Development. Free Press New York.
Kirby, D.A., 2004. Entrepreneurship Education: Can Business Schools Meet the Challenge? Education Training 46 (8/9), 510-519.
Kirchhoff, B.A., 1994. Entrepreneurship and Dynamic Capitalism: The Economics of Business Firm Formation and Growth. Praeger Publishers.
Kirzner, I., 1973. Competition and Entrepreneurship.
Kirzner, I.M., 1997. Entrepreneurial Discovery and the Competitive Market Process: An Austrian Approach, Journal of Economic Literature 35 (1), 60-85.
Kirzner, I.M., 1978. Competition and Entrepreneurship. University of Chicago Press.
Klein, P.G., Bullock, J.B., 2006. Can Entrepreneurship be Taught? Journal of Agricultural and Applied Economics 38 (2), 429.
Klein, P.G., Cook, M.L., 2006. TW Schultz and the Human-Capital Approach to Entrepreneurship, Applied Economic Perspectives and Policy 28 (3), 344-350.
Knight, F.H., 1921. Risk, Uncertainty and Profit, Reprint of Scarce Texts in Economic and Political Science 16.
Kolb, D.A., Boyatzis, R.E., Mainemelis, C., 2001. Experiential Learning Theory: Previous Research and New Directions, Perspectives on Thinking, Learning, and Cognitive Styles 1, 227-247.
Kolb, A.Y., Kolb, D.A., 2005. Learning Styles and Learning Spaces: Enhancing Experiential Learning in Higher Education, Academy of Management Learning & Education , 193-212.
Kolb, D.A., 1984. Experiential Learning: Experience as the Source of Learning and Development. Prentice-Hall Englewood Cliffs, NJ.
Kolvereid, L., 1996a. Prediction of Employment Status Choice Intentions, Journal Article by Lars Kolvereid; Entrepreneurship: Theory and Practice 21.
Kolvereid, L., 1996b. Organizational Employment Versus Self-Employment: Reasons for Career Choice Intentions, Entrepreneurship: Theory & Practice 20 (3), 23-31.
Kostova, T., 1997. Country Institutional Profiles: Concept and Measurement, Academy of Management Best Papers Proceedings, 180-184.
Kotler, P., 2011. Reinventing Marketing to Manage the Environmental Imperative, Journal of Marketing 75 (4), 132-135.
Kotler, P., Armstrong, G., 2013. Principles of Marketing 15th Global Edition. Pearson
Krathwohl, D.R., Bloom, B.S., 2002. Taxonomy of Educational Objectives: The Classification of Educational Goals. Longman.
Kristiansen, S., Indarti, N., 2004. Entrepreneurial Intention among Indonesian and Norwegian Students, Journal of Enterprising Culture 12 (1), 55-78.
Krueger Jr, N.F., 2009. The Microfoundations of Entrepreneurial Learning and Education: The Experiential Essence of Entrepreneurial Cognition, Handbook of University-Wide Entrepreneurship Education, 35-59.

Krueger Jr, N.F., 2007a. The Cognitive Infrastructure of Opportunity Emergence, Entrepreneurship: Concepts, Theory and Perspective, Springer, Berlin, 185-206.
Krueger Jr, N.F., 2007b. What Lies Beneath? The Experiential Essence of Entrepreneurial Thinking, Entrepreneurship Theory and Practice 31 (1), 123-138.
Krueger JR, N.F., Reilly, M.D., Carsrud, A.L., 2000. Competing Models of Entrepreneurial Intentions, Journal of Business Venturing 15 (5-6), 411-432.
Krueger, J.N.F., Carsrud, A.L., 1993. Entrepreneurial Intentions: Applying the Theory of Planned Behaviour, Entrepreneurship & Regional Development 5 (4), 315-330.
Krueger, N., 2009. Entrepreneurial Intentions are Dead: Long Live Entrepreneurial Intentions, Understanding the Entrepreneurial Mind, 51-72.
Krueger, N., 1993. The Impact of Prior Entrepreneurial Exposure on Perceptions of New Venture Feasibility and Desirability, Entrepreneurship: Theory and Practice 18 (1).
Krueger, N.F., Brazeal, D.V., 1994. Entrepreneurial Potential and Potential Entrepreneurs, Entrepreneurship Theory and Practice 18, 91-91.
Krueger, N., 2008. Entrepreneurial Resilience: Real & Perceived Barriers to Implementing Entrepreneurial Intentions, Social Science Research Network.
Krueger, N., Dickson, P.R., 1994. How Believing in Ourselves Increases Risk Taking: Perceived Self-Efficacy and Opportunity Recognition, Decision Sciences 25 (3), 385-400.
Kuhn, T.S., 1970. The Structure of Scientific Revolutions, Chicago/London.
Kuratko, D.F., 2003. Entrepreneurship Education: Emerging Trends and Challenges for the 21st Century. In: A Paper Presented at a Meeting of the US Association of Small Business & Entrepreneurship.
Kuratko, D.F., 2005. The Emergence of Entrepreneurship Education: Development, Trends, and Challenges, Entrepreneurship Theory and Practice 29 (5), 577-598.
Küttim, M., Kallaste, M., Venesaar, U., Kiis, A., 2014. Entrepreneurship Education at University Level and Students' Entrepreneurial Intentions, Procedia-Social and Behavioral Sciences 110, 658-668.
Laing, R.D., 1967. The Politics of Experience & the Bird of Paradise Harmondsworth, UK: Pen .
Lalkaka, R., 2009. National Innovation Systems: The Role of Academia, Enterprise, and State,^ In, Asia Pacific Journal of Entrepreneurship 3 (2), 5-28.
Lau, C.M., Woodman, R.W., 1995. Understanding Organizational Change: A Schematic Perspective, Academy of Management Journal, 537-554.
Lawson, T., 1996. Developments in Economics as Realist Social Theory, Review of Social Economy 54 (4), 405-422.
Layder, D., Layder, 1993. New Strategies in Social Research: An Introduction and Guide. Polity Press Cambridge.
Learned, K.E., 1992. What Happened before the Organization? A Model of Organization Formation, Entrepreneurship Theory and Practice 17 (1).
LeCompte, M.D., Goetz, J.P., 1982. Problems of Reliability and Validity in Ethnographic Research, Review of Educational Research 52 (1), 31-60.
Lee, D.Y., Tsang, E.W.K., 2001. The Effects of Entrepreneurial Personality, Background and Network Activities on Venture Growth*, Journal of Management Studies 38 (4), 583-602.
Lee, S.H., Wong, P.K., 2004. An Exploratory Study of Technopreneurial Intentions: A Career Anchor Perspective, Journal of Business Venturing 19 (1), 7-28.
Leibenstein, H., 1966. Allocative Efficiency Vs." X-Efficiency", The American Economic Review 56 (3), 392-415.
Leightner, J.E., Inoue, T., 2012. Solving the Omitted Variables Problem of Regression Analysis using the Relative Vertical Position of Observations, Advances in Decision Sciences 2012.
Levenburg, N.M., Lane, P.M., Schwarz, T.V., 2006. Interdisciplinary Dimensions in Entrepreneurship, Journal of Education for Business 81 (5), 275-281.
Levie, J., 1999. Entrepreneurship Education in Higher Education in England: A Survey, London Business School, London.
Lewin, K., Cartwright, D., 1952. Field Theory in Social Science: Selected Theoretical Papers. Tavistock London.

Lewis, S.E., Shaw, J.L., Heitz, J.O., Webster, G.H., 2009. Attitude Counts: Self-Concept and Success in General Chemistry, Journal of Chemical Education 86 (6), 744.
Lewis, W.A., 1954. Economic Development with Unlimited Supplies of Labour, The Manchester School 22 (2), 139-191.
Li, J., Zhang, Y., Matlay, H., 2003. Entrepreneurship Education in China, Education Training 45 (8/9), 495-505.
Li, W., 2007. Ethnic Entrepreneurship: Studying Chinese and Indian Students in the United States, Journal of Developmental Entrepreneurship 12 (04), 449-466.
Lievens, F., Coetsier, P., De Fruyt, F., De Maeseneer, J., 2002. Medical Students' Personality Characteristics and Academic Performance: A Five-factor Model Perspective, Medical Education 36 (11), 1050-1056.
Lim, D.S.K., Morse, E.A., Mitchell, R.K., Seawright, K.K., 2010. Institutional Environment and Entrepreneurial Cognitions: A Comparative Business Systems Perspective, Entrepreneurship: Theory & Practice 34 (3), 491-516.
Liñán, F., 2008. Skill and Value Perceptions: How do they Affect Entrepreneurial Intentions? International Entrepreneurship and Management Journal 4 (3), 257-272.
Liñán, F., Chen, Y.W., 2009. Development and Cross-Cultural Application of a Specific Instrument to Measure Entrepreneurial Intentions, Entrepreneurship Theory and Practice 33 (3), 593-617.
Liñán, F., Urbano, D., Guerrero, M., 2011a. Regional Variations in Entrepreneurial Cognitions: Start-Up Intentions of University Students in Spain, Entrepreneurship and Regional Development 23 (3-4), 187-215.
Liñán, F., Rodríguez-Cohard, J.C., Rueda-Cantuche, J.M., 2011b. Factors Affecting Entrepreneurial Intention Levels: A Role for Education, International Entrepreneurship and Management Journal 7 (2), 195-218.
Lincoln, Y.S., Guba, E., 2000. “Paradigmatic Controversies, Contradictions, and Emerging Confluences,”, NK Denzin and Yvonna S., Lincoln (Eds.), Handbook of Qualitative Research.London: Sage, 8.
Lincoln, Y.S., Guba, E.G., 1986. But is it Rigorous? Trustworthiness and Authenticity in Naturalistic Evaluation, New Directions for Program Evaluation 1986 (30), 73-84.
Lincoln, Y.S., Guba, E.G., 1985. Establishing Trustworthiness, Naturalistic Inquiry, 289-331.
Littunen, H., 2000. Entrepreneurship and the Characteristics of the Entrepreneurial Personality, International Journal of Entrepreneurial Behaviour & Research 6 (6), 295-310.
Lord Young, 2013. Growing Your Business: A Report on Growing Micro Businesses in UK, http://smallbusinesscharter.org/images/media/mediagrowing-your-business-lord-young.pdf accessed 23.04.2014.
Lord Young, 2012. Make Business Your Business: Supporting the Start-Up and Development of Small Business in UK, http://www.ukbi.co.uk/media/download%20docs/start_up_britain_report_-_make_business_your_business_-_lord_young_-_2012.pdf accessed on 22.04.2014.
Low, M.B., MacMillan, I.C., 1988. Entrepreneurship: Past Research and Future Challenges, Journal of Management 14 (2), 139-161.
Luethje, C., Franke, N., 2004. Entrepreneurial Intentions of Business Students: A Benchmarking Study, International Journal of Innovation and Technology Management 1 (3), 269-288.
Lund, T., 2005. The Qualitative–quantitative Distinction: Some Comments, Scandinavian Journal of Educational Research 49 (2), 115-132.
Lungu, J., 2008. Socio-Economic Change and Natural Resource Exploitation: A Case Study of the Zambian Copper Mining Industry, Development Southern Africa 25 (5), 543-560.
Lungu, J., Chama, S., Mwiya, B.M.K., 2007. Quality of Employment, Implications for Policy: Evidence from Zambia.
Lüthje, C., Franke, N., 2003. The ‘making’of an Entrepreneur: Testing a Model of Entrepreneurial Intent among Engineering Students at MIT, R&D Management 33 (2), 135-147.
MacKinnon, D., 2007. Introduction to Statistical Mediation Analysis. CRC Press.

MacKinnon, D.P., Fairchild, A.J., 2009. Current Directions in Mediation Analysis, Current Directions in Psychological Science 18 (1), 16-20.
MacKinnon, D.P., Lockwood, C.M., Hoffman, J.M., West, S.G., Sheets, V., 2002. A Comparison of Methods to Test Mediation and Other Intervening Variable Effects. Psychological Methods 7 (1), 83.
MacKinnon, D., Coxe, S., Baraldi, A., 2012. Guidelines for the Investigation of Mediating Variables in Business Research, Journal of Business & Psychology 27 (1), 1-14.
Maimbo, S.M., Mavrotas, G., 2003. Financial Sector Reforms and Savings Mobilization in Zambia. WIDER Discussion Papers//World Institute for Development Economics (UNU-WIDER).
Mancuso, J.R., 1974. What it Takes to be an Entrepreneur: A Questionnaire Approach, Journal of Small Business Management 12 (4), 16-22.
Manolova, T.S., Eunni, R.V., Gyoshev, B.S., 2008. Institutional Environments for Entrepreneurship: Evidence from Emerging Economies in Eastern Europe, Entrepreneurship Theory and Practice 32 (1), 203-218.
Maria, M., Bygrave, W., 2001. A Dynamic Model of Entrepreneurial Learning, Entrepreneurship Theory and Practice Waco 25 (3), 5-14.
Markman, G.D., Balkin, D.B., Baron, R.A., 2002. Inventors and New Venture Formation: The Effects of General Self-Efficacy and Regretful Thinking, Entrepreneurship Theory and Practice 27 (2), 149-165.
Marques, C.S., Ferreira, J.J., Gomes, D.N., Rodrigues, R.G., 2012. Entrepreneurship Education: How Psychological, Demographic and Behavioural Factors Predict the Entrepreneurial Intention, Education Training 54 (8/9), 657-672.
Marshall, A., 1920. Principles of Economics (London, 1920), Book VI , 618-619.
Martin, B.C., McNally, J.J., Kay, M.J., 2013. Examining the Formation of Human Capital in Entrepreneurship: A Meta-Analysis of Entrepreneurship Education Outcomes, Journal of Business Venturing 28 (2), 211-224.
Martinelli, A., 2004. The Social and Institutional Context of Entrepreneurship, Crossroads of Entrepreneurship, 53-73.
Martínez, A.C., Kelley, D., Levie, J., 2010. Global Entrepreneurship Monitor Special Report: A Global Perspective on Entrepreneurship Education and Training, Global Entrepreneurship Monitor, United States.
Matheson, D., 2008. An Introduction to the Study of Education. David Fulton Publish.
Matlay, H., 2009. Entrepreneurship Education in the UK: A Critical Analysis of Stakeholder Involvement and Expectations, Journal of Small Business and Enterprise Development 16 (2), 355-368.
Matlay, H., 2008. The Impact of Entrepreneurship Education on Entrepreneurial Outcomes, Journal of Small Business and Enterprise Development 15 (2), 382-396.
Matlay, H., 2005. Researching Entrepreneurship and Education: Part 1: What is Entrepreneurship and does it Matter? Education Training 47 (8/9), 665-677.
Matlay, H., Mitra, J., 2002. Entrepreneurship and Learning: The Double Act in the Triple Helix, The International Journal of Entrepreneurship and Innovation 3 (1), 7-16.
Matlay, H., 2010. Stakeholder Participation in, and Impact upon, entrepreneurship Education in the UK, Handbook of Research in Entrepreneurship Education: International Perspectives, Edited by Alain Fayolle 3, 110-121.
Mauer, R., Neergaard, H., Linstad, A.K., 2009. Self-Efficacy: Conditioning the Entrepreneurial Mindset, Understanding the Entrepreneurial Mind, 233-257.
Mauzu, D.M., 2000. SME Policies and Policy Formulation in SADC Countries; SMME Policy in Zambia, Friedrich-Ebert-Stiftung, Botswana http://library.fes.de/fulltext/bueros/botswana/00552013.htm.
McAuley, J., FIPD, Duberley, J., Johnson, P., 2007. Organization Theory: Challenges and Perspectives. Financial Times Prentice Hall, Harlow.
McClelland, D.C., 1967. The Achieving Society. Free Press.
McClelland, D.C., 1965. N Achievement and Entrepreneurship: A Longitudinal Study. Journal of Personality and Social Psychology 1 (4), 389.
McClelland, D.C., 1961. The Achievement Society, The Achievement Society.

McCrae, R.R., Costa Jr, P.T., 1989. Reinterpreting the Myers-Briggs Type Indicator from the Perspective of the Five-Factor Model of Personality, Journal of Personality 57 (1), 17-40.
McCrae, R.R., Costa, P.T., 2004. A Contemplated Revision of the NEO Five-Factor Inventory, Personality and Individual Differences 36 (3), 587-596.
McCrae, R.R., Costa, P.T., 1985. Comparison of EPI and Psychoticism Scales with Measures of the Five-Factor Model of Personality, Personality and Individual Differences 6 (5), 587-597.
McGee, J.E., Peterson, M., Mueller, S.L., Sequeira, J.M., 2009. Entrepreneurial Self-Efficacy: Refining the Measure, Entrepreneurship Theory and Practice 33 (4), 965-988.
McGrath, R.G., MacMillan, I.C., 2000. The Entrepreneurial Mindset: Strategies for Continuously Creating Opportunity in an Age of Uncertainty. Harvard Business Press.
McMullan, C.A., Boberg, A.L., 1991. The Relative Effectiveness of Projects in Teaching Entrepreneurship, Journal of Small Business and Entrepreneurship 9 (1), 14-24.
Mcmullan, W.E., Long, W.A., 1987. Entrepreneurship Education in the Nineties, Journal of Business Venturing 2 (3), 261-275.
Mead, G.H., 2009. Mind, Self, and Society: From the Standpoint of a Social Behaviorist. University of Chicago press.
Mead, G.H., 1925. The Genesis of the Self and Social Control, International Journal of Ethics 35 (3), 251-277.
Meade, A.W., Watson, A.M., Kroustalis, C.M., 2007. Assessing Common Methods Bias in Organizational Research. In: 22nd Annual Meeting of the Society for Industrial and Organizational Psychology, New York, pp. 1-10.
Meertens, R.M., Lion, R., 2008. Measuring an Individual's Tendency to Take Risks: The Risk Propensity Scale1, Journal of Applied Social Psychology 38 (6), 1506-1520.
Meredith, G.G., Nelson, R.E., Neck, P.A., Oficina Internacional del Trabajo (Ginebra), 1982. The Practice of Entrepreneurship. International Labour Office.
Mertens, D.M., 2009. Research and Evaluation in Education and Psychology: Integrating Diversity with Quantitative, Qualitative, and Mixed Methods. Sage.
Mescon, T.S., Montanari, J., 1981. The Personalities of Independent and Franchise Entrepreneurs: An Empirical Analysis of Concepts, Journal of Enterprise Management 3 (2), 149-159.
Meyer, B.D., 1995. Natural and Quasi-Experiments in Economics, Journal of Business & Economic Statistics 13 (2), 151-161.
Meyer, J.W., Rowan, B., 1977. Institutionalized Organizations: Formal Structure as Myth and Ceremony, American Journal of Sociology 83 (2), 340-363.
Mill, J.S., 1848. The Principles of Political Economy. Wiley Online Library.
Miller, D., 1983. The Correlates of Entrepreneurship in Three Types of Firms, Management Science, 770-791.
Mises, L., 1949. 1998, Human Action: A Treatise on Economics.
Mitchell, R.K., Busenitz, L.W., Bird, B., Marie Gaglio, C., McMullen, J.S., Morse, E.A., Smith, J.B., 2007. The Central Question in Entrepreneurial Cognition Research 2007, Entrepreneurship Theory and Practice 31 (1), 1-27.
Mitra, J., 2011. UNCTAD Multi-Year Expert Meeting on Enterprise Development Policies and Capacity-Building in Science, Technology and Innovation (STI) January 16-18, 2011 Briefing Note on Pro-Poor Entrepreneurship: Issues and Policy.
Mitton, D.G., 1989. The Compleat Entrepreneur, Entrepreneurship Theory and Practice 13 (3), 9-19.
Molina-Azorín, J.F., López-Gamero, M.D., Pereira-Moliner, J., Pertusa-Ortega, E., 2012. Mixed Methods Studies in Entrepreneurship Research: Applications and Contributions, Entrepreneurship & Regional Development 24 (5), 425-456.
Morera, O.F., Castro, F.G., 2013. Important Considerations in Conducting Statistical Mediation Analyses, American Journal of Public Health 103 (3), 394-396.
Morgan, D.L., 2007. Paradigms Lost and Pragmatism Regained Methodological Implications of Combining Qualitative and Quantitative Methods, Journal of Mixed Methods Research 1 (1), 48-76.

Moroz, P.W., Hindle, K., 2010. Entrepreneurship as a Process: Toward Harmonizing Multiple Perspectives, Entrepreneurship Theory and Practice.
Morris, M.H., Webb, J.W., Fu, J., Singhal, S., 2013. A Competency-Based Perspective on Entrepreneurship Education: Conceptual and Empirical Insights, Journal of Small Business Management 51 (3), 352-369.
Morse, J.M., 1991. Approaches to Qualitative-Quantitative Methodological Triangulation, Nursing Research 40 (2), 120-123.
Mueller, S.L., Thomas, A.S., 2001. Culture and Entrepreneurial Potential: A Nine Country Study of Locus of Control and Innovativeness, Journal of Business Venturing 16 (1), 51-75.
Murphy, J.P., Rorty, R., 1990. Pragmatism: From Peirce to Davidson. Westview Press Boulder, CO.
Musil, C.M., Jones, S.L., Warner, C.D., 1998. Structural Equation Modeling and its Relationship to Multiple Regression and Factor Analysis, Research in Nursing & Health 21 (3), 271-281.
Mutambi, J., Byaruhanga, J.K., Trojer, L., Buhwezi, K.B., 2010. Research on the State of Business Incubation Systems in Different Countries: Lessons for Uganda, African Journal of Science, Technology, Innovation & Development 2.
Mwamba, S., Griffiths, A., Kahler, A., 2010. A Fool's Paradise? Zambia's Mining Tax Regime.
Mwiya, B., 2006. Credit Default in the Zambian Banking Sector: Need for Credit Reference Bureaus, Journal of Business 1 (2), 2-15.
Nabi, G., Holden, R., 2008. Graduate Entrepreneurship: Intentions, Education and Training, Education Training 50 (7), 545-551.
Nabi, G., Holden, R., Walmsley, A., 2010. Entrepreneurial Intentions among Students: Towards a Re-Focused Research Agenda, Journal of Small Business and Enterprise Development 17 (4), 537-551.
Nabi, G., Liñán, F., 2011. Graduate Entrepreneurship in the Developing World: Intentions, Education and Development, Education Training 53 (5), 325-334.
Nabi, G.R., Bagley, D., 1999. Graduates' Perceptions of Transferable Personal Skills and Future Career Preparation in the UK, Education Training 41 (4), 184-193.
National Budget, 2014. National Budget for Zambia 2014.
Naudé, W., Gries, T., Wood, E., Meintjies, A., 2008. Regional Determinants of Entrepreneurial Start-Ups in a Developing Country, Entrepreneurship and Regional Development 20 (2), 111-124.
Naylor, R.W., Lamberton, C.P., West, P.M., 2012. Beyond the "like" Button: The Impact of Mere Virtual Presence on Brand Evaluations and Purchase Intentions in Social Media Settings, Journal of Marketing 76 (6), 105-120.
NBIA, 2014. US Based National Business Incubation Association, https://www.nbia.org/resource_library/what_is/index.php accessed on 22.04.2014.
Neck, H.M., Greene, P.G., 2011. Entrepreneurship Education: Known Worlds and New Frontiers, Journal of Small Business Management 49 (1), 55-70.
Neuman, W.L., 2009. Social Research Methods: Quantitative and Qualitative Methods.
Neumark, D., Wall, B., Zhang, J., 2011. Do Small Businesses Create More Jobs? New Evidence for the United States from the National Establishment Time Series, The Review of Economics and Statistics 93 (1), 16-29.
Nga, K.H.J., Shamuganathan, G., 2010. "The Influence of Personality Traits and Demographic Factors on Social Entrepreneurship Start Up Intentions."Journal of Business Ethics 95 (2), 259-282.
Nikolova, E., Simroth, D., 2013. Does Cultural Diversity Help Or Hinder Entrepreneurs? Evidence from Eastern Europe and Central Asia, Evidence from Eastern Europe and Central Asia (May, 2013).
North, D.C., 1990. Institutions, Institutional Change, and Economic Performance. Cambridge Univ Pr.
Novick, G., 2008. Is there a Bias Against Telephone Interviews in Qualitative Research? Research in Nursing & Health 31 (4), 391-398.
Nunnally, J.C., Bernstein, I., 1978. Psychometry Theory, New York: McGraw-Hill.

Obschonka, M., Silbereisen, R.K., Schmitt-Rodermund, E., 2010. Entrepreneurial Intention as Developmental Outcome, Journal of Vocational Behavior 77 (1), 63-72.
Oosterbeek, H., van Praag, M., Ijsselstein, A., 2010. The Impact of Entrepreneurship Education on Entrepreneurship Skills and Motivation, European Economic Review 54 (3), 442-454.
Opdenakker, R., 2006. Advantages and Disadvantages of Four Interview Techniques in Qualitative Research. In: Forum Qualitative Sozialforschung/Forum: Qualitative Social Research.
Orhan, M., Scott, D., 2001. Why Women Enter into Entrepreneurship: An Explanatory Model, Women in Management Review 16 (5), 232-247.
Osborne, R.L., 1995. The Essence of Entrepreneurial Success, Management Decision 33 (7), 4-9.
Packham, G., Jones, P., Miller, C., Pickernell, D., Thomas, B., 2010. Attitudes Towards Entrepreneurship Education: A Comparative Analysis, Education Training 52 (8/9), 568-586.
Pallant, J., 2010. SPSS Survival Manual: A Step by Step Guide to Data Analysis using SPSS. Open University Press.
Park, H.S., Levine, T.R., 1999. The Theory of Reasoned Action and Self-construal: Evidence from Three Cultures, Communications Monographs 66 (3), 199-218.
Patokorpi, E., 2006. Role of Abductive Reasoning in Digital Interaction.
Patton, M.Q., 2005. Qualitative Research. Wiley Online Library.
Patton, M.Q., 1990. Qualitative Evaluation and Research Methods. SAGE Publications.
Pedler, M.M., 2012. Action Learning for Managers. Gower Publishing, Ltd.
Peirce, C.S., 1955. Abduction and Induction, Philosophical Writings of Peirce 11.
Penrose, E., 1959. The Growth of the Firm, White Plains, New York: ME Sharpe .
Peter, J.P., 1979. Reliability: A Review of Psychometric Basics and Recent Marketing Practices, Journal of Marketing Research, 6-17.
Peterman, N.E., Kennedy, J., 2003. Enterprise Education: Influencing Students' Perceptions of Entrepreneurship, Entrepreneurship Theory and Practice 28 (2), 129-144.
Peters, G., 2014. Africa'S Entrepreneurial Route to Growth, Business Strategy Review 25 (1), 10-14.
Peterson, R.A., 1994. A Meta-Analysis of Cronbach's Coefficient Alpha, Journal of Consumer Research 21 (2), 381-391.
Phan, P.H., Siegel, D.S., Wright, M., 2005. Science Parks and Incubators: Observations, Synthesis and Future Research, Journal of Business Venturing 20 (2), 165-182.
Pickering, J.F., 1981. A Behavioral Model of the Demand for Consumer Durables, Journal of Economic Psychology 1 (1), 59-77.
Pickernell, D., Packham, G., Jones, P., Miller, C., Thomas, B., 2011. Graduate Entrepreneurs are Different: They Access More Resources? International Journal of Entrepreneurial Behaviour & Research 17 (2), 183-202.
Pittaway, L., Cope, J., 2007. Entrepreneurship Education A Systematic Review of the Evidence, International Small Business Journal 25 (5), 479-510.
Ployhart, R.E., Moliterno, T.P., 2011. Emergence of the Human Capital Resource: A Multilevel Model, Academy of Management Review 36 (1), 127-150.
Podsakoff, P.M., MacKenzie, S.B., Lee, J., Podsakoff, N.P., 2003. Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies. Journal of Applied Psychology 88 (5), 879.
Popper, K.R., 1959. The Logic of Scientific Discovery, London: Hutchinson 1.
Popper, K.R., Popper, K.R., Popper, K.R., 1972. Objective Knowledge: An Evolutionary Approach. Clarendon Press Oxford.
Porter, M.E., 1980. Competitive Strategy: Techniques for Analyzing Industries and Competition, New York.
Potvin, P., Hasni, A., 2014. Interest, Motivation and Attitude Towards Science and Technology at K-12 Levels: A Systematic Review of 12 Years of Educational Research, Studies in Science Education 50 (1), 85-129.

Prieto, L., Wang, L., Hinrichs, K.T., Aguirre-Milling, H., 2010. Propensity for Self-Employment: Contrasting the USA and Mexico, Journal of Small Business and Enterprise Development 17 (3), 315-333.
QAA, 2012. Guidance on Enterprise and Entrepreneurship to UK Higher Education Providers, Quality Assurance Authority for Higher Education in the UK.
Rae, D., 2010. Universities and Enterprise Education: Responding to the Challenges of the New Era, Journal of Small Business and Enterprise Development 17 (4), 591-606.
Rae, D., 2007a. Connecting Enterprise and Graduate Employability: Challenges to the Higher Education Culture and Curriculum? Education Training 49 (8/9), 605-619.
Rae, D., 2007b. Entrepreneurship: From Opportunity to Action. Palgrave Macmillan.
Rae, D., Martin, L., Ancliff, V., Hannon, P., 2012. Enterprise and Entrepreneurship in English Higher Education: 2010 and Beyond, Journal Small Business & Enterprise Development 19.
Rae, D., 2000. Understanding Entrepreneurial Learning: A Question of how? International Journal of Entrepreneurial Behaviour & Research 6 (3), 145-159.
Rasheed, H.S., 2000. Developing Entrepreneurial Potential in Youth: The Effects of Entrepreneurial Education and Venture Creation, Florida: University of South Florida.
Rasheed, H.S., Rasheed, B., 2003. Developing Entrepreneurial Characteristics in Youth: The Effects of Education and Enterprise Experience, Ethnic Entrepreneurship: Structure and Process.Amsterdam: Elsevier.
Ratinho, T., Henriques, E., 2010. The Role of Science Parks and Business Incubators in Converging Countries: Evidence from Portugal, Technovation 30 (4), 278-290.
Rauch, A., Frese, M., 2000. Psychological Approaches to Entrepreneurial Success: A General Model and an Overview of Findings, International Review of Industrial and Organizational Psychology 15, 101-142.
Rauch, A., Frese, M., 2007. Let's Put the Person Back into Entrepreneurship Research: A Meta-Analysis on the Relationship between Business Owners' Personality Traits, Business Creation, and Success, European Journal of Work & Organizational Psychology 16 (4), 353-385.
Remenyi, D., Williams, B., Money, A., Swartz, E., 1998. Doing Business Research in Business and Management.
Remenyi, D., 1998. Doing Research in Business and Management: An Introduction to Process and Method. Sage.
Reynolds, P., Gartner, W.B., Greene, P., Cox, L., Carter, N.M., 2002. The Entrepreneur Next Door: Characteristics of Individuals Starting Companies in America: An Executive Summary of the Panel Study of Entrepreneurial Dynamics.
Reynolds, P.D., Hay, M., Camp, S.M., 1999. Global Entrepreneurship Monitor, Babson College.
Reynolds, P.D., 2011. Informal and Early Formal Financial Support in the Business Creation Process: Exploration with PSED II Data Set, Journal of Small Business Management 49 (1), 27-54.
Rideout, E.C., Gray, D.O., 2013. Does Entrepreneurship Education really Work? A Review and Methodological Critique of the Empirical Literature on the Effects of University-Based Entrepreneurship Education, Journal of Small Business Management 51 (3), 329-351.
Ripsas, S., 1998. Towards an Interdisciplinary Theory of Entrepreneurship, Small Business Economics 10 (2), 103-115.
Robertson, M., Collins, A., Medeira, N., Slater, J., 2003. Barriers to Start-Up and their Effect on Aspirant Entrepreneurs, Education Training 45 (6), 308-316.
Robinson, P.B., Hunt, H.K., 1992. Entrepreneurship and Birth Order: Fact Or Folklore, Entrepreneurship & Regional Development 4 (3), 287-298.
Robinson, P.B., Stimpson, D.V., Huefner, J.C., Hunt, H.K., 1991. An Attitude Approach to the Prediction of Entrepreneurship, Entrepreneurship Theory and Practice 15 (4), 13-32.
Robinson, P.B., Sexton, E.A., 1994. The Effect of Education and Experience on Self-Employment Success, Journal of Business Venturing 9 (2), 141-156.

Rønning, L., 2006. Book Review: The Creation and Destruction of Social Capital: Entrepreneurship, Co-Operative Movements and Institutions, International Small Business Journal 24 (2), 214.
Ronstadt, R., 1990. The Educated Entrepreneurs: A New Era of Entrepreneurial Education is Beginning, Kent, CA, Entrepreneurship Education.Current Developments, Future Directions, 69-88.
Rorty, R., 1990. Pragmatism as Anti-Representationalism, Pragmatism: From Pierce to Davidson.Westview Press, Boulder, CO, 1-6.
Rose, A.M., 1962. A Systematic Summary of Symbolic Interaction Theory, Human Behavior and Social Processes, 3-19.
Rossman, G.B., Wilson, B.L., 1985. Numbers and Words Combining Quantitative and Qualitative Methods in a Single Large-Scale Evaluation Study, Evaluation Review 9 (5), 627-643.
Rotefoss, B., Kolvereid, L., 2005. Aspiring, Nascent and Fledgling Entrepreneurs: An Investigation of the Business Start-Up Process, Entrepreneurship & Regional Development 17 (2), 109-127.
Rotter, J.B., 1966. Generalized Expectancies for Internal Versus External Control of Reinforcement. Psychological Monographs: General and Applied 80 (1), 1.
Roy, W.G., 1997. Socializing Capital. Cambridge Univ Press.
Rucker, D.D., Preacher, K.J., Tormala, Z.L., Petty, R.E., 2011. Mediation Analysis in Social Psychology: Current Practices and New Recommendations, Social and Personality Psychology Compass 5 (6), 359-371.
Sala-I-Martin, X., Bilbao-Osorio, B., Blanke, J., Hanouz, M.D., Geiger, T., 2012. The Global Competitiveness Index 2011–2012: Setting the Foundations for Strong Productivity.
Sánchez, J.C., 2013. The Impact of an Entrepreneurship Education Program on Entrepreneurial Competencies and Intention, Journal of Small Business Management 51 (3), 447-465.
Sarasvathy, S.D., 2001. Causation and Effectuation: Toward a Theoretical Shift from Economic Inevitability to Entrepreneurial Contingency, Academy of Management Review , 243-263.
Sarasvathy, S.D., Venkataraman, S., 2011. Entrepreneurship as Method: Open Questions for an Entrepreneurial Future, Entrepreneurship Theory and Practice 35 (1), 113-135.
SARUA, 2012. Southern African Regional Universities Association, Zambia Data Profile Higher Education Landscape, SARUA Report Accessed on 20 July 2013 http://www.sarua.org/files/country%20reports%202012/zambia%20data%20profile%20eng.pdf.
Saunders, M., Lewis, P., Thornhill, A., 2009. Research Methods for Business Students. Prentice Hall.
Saunders, M.N., Saunders, M., Lewis, P., Thornhill, A., 2012. Research Methods for Business Students, 6/E. Pearson Education India.
Say, J.B., 1821. Letters to Thomas Robert Malthus on Political Economy and Stagnation of Commerce, History of Economic Thought Books.
Say, J.B., Richter, J., 1816. Catechism of Political Economy: Or, Familiar Conversations on the Manner in which Wealth is Produced, Distributed, and Consumed in Society. Printed for Sherwood, Neely, and Jones.
Schein, E.H., 1996. Career Anchors Revisited: Implications for Career Development in the 21st Century, The Academy of Management Executive (1993-2005), 80-88.
Schenkel, M.T., Hechavarria, D.M., Matthews, C.H., 2009. The Role of Human and Social Capital and Technology in Nascent Ventures, New Firm Creation in the United States, 157-183.
Scherer, R.F., Brodzinski, J.D., Wiebe, F.A., 1990. Entrepreneur Career Selection and Gender: A Socialization Approach, Journal of Small Business Management 28 (2), 37-44.
Scherer, R.F., Adams, J.S., Carley, S.S., Wiebe, F.A., 1989. Role Model Performance Effects on Development of Entrepreneurial Career Preference, Entrepreneurship: Theory & Practice 13 (3), 53-71.

Schlaegel, C., Koenig, M., 2014. Determinants of Entrepreneurial Intent: A Meta-Analytic Test and Integration of Competing Models, Entrepreneurship Theory and Practice 38 (2), 291-332.
Schramm, C.J., 2006. The Entrepreneurial Imperative: How America's Economic Miracle Will Reshape the World (and Change Your Life). Collins New York.
Schultz, T.W., 1975. The Value of the Ability to Deal with Disequilibria, Journal of Economic Literature 13 (3), 827-846.
Schultz, T.W., 1979. Concepts of Entrepreneurship and Agricultural Research, Kaldor Memorial Lecture, Iowa State University.
Schultz, T.W., Schultz, T.W., 1982. Investing in People: The Economics of Population Quality. Univ of California Press.
Schultz, T., W., 1982. Investment in Entrepreneurial Ability, Scandinavian Journal of Economics 4, 437-448.
Schumpeter, J., Backhaus, U., 1934. The Theory of Economic Development, Joseph Alois Schumpeter , 61-116.
Schumpeter, J.A., 1954. History of Economic Analysis. Psychology Press.
Schumpeter, J.A., 1934. Change and the Entrepreneur, Essays of JA Schumpeter.
Schutz, A., 1970. Alfred Schutz on Phenomenology and Social Relations. University of Chicago Press.
Schutz, A., 1962. Collected Papers, Vol. I: The Problem of Social Reality, The Hague: Martinus Nijhoff.
Scott, W.R., 1995. Organizations and Institutions.
Scott, W., 2008. Approaching Adulthood: The Maturing of Institutional Theory, Theory & Society 37 (5), 427-442.
Segal, G., Borgia, D., Schoenfeld, J., 2005. The Motivation to Become an Entrepreneur, International Journal of Entrepreneurial Behaviour & Research 11 (1), 42-57.
Sexton, D.L., Kent, C.A., 1981. Female Executives Versus Female Entrepreneurs'. In: Frontiers of Entrepreneurship Research: The Proceeding of the 1981 Babson Conference on Entrepreneurship Research, Wellesley MA: Babson College, pp. 40-45.
Sexton, D.L., Smilor, R.W., 1986. The Art and Science of Entrepreneurship, University of Illinois at Urbana-Champaign's Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship.
Shane, S., Venkataraman, S., 2000. The Promise of Enterpreneurship as a Field of Research, Academy of Management Review, 217-226.
Shane, S.A., 2004. Academic Entrepreneurship: University Spinoffs and Wealth Creation. Edward Elgar Publishing.
Shane, S.A., 2003. A General Theory of Entrepreneurship: The Individual-Opportunity Nexus. Edward Elgar Pub.
Shapero, A., 1981. Why Don'T Your Kids Want to be Entrepreneurs? Inc, September .
Shapero, A., 1975. The Displaced, Uncomfortable Entrepreneur, Psychology Today (November), 83-88.
Shapero, A., Sokol, L., 1982. The Social Dimensions of Entrepreneurship.
Shaver, K.G., Scott, L.R., 1991. Person, Process, Choice: The Psychology of New Venture Creation, Entrepreneurship Theory and Practice 16 (2), 23-45.
Shepherd, D.A., 2011. Multilevel Entrepreneurship Research: Opportunities for Studying Entrepreneurial Decision Making, Journal of Management 37 (2), 412-420.
Shepherd, D.A., DeTienne, D.R., 2005. Prior Knowledge, Potential Financial Reward, and Opportunity Identification, Entrepreneurship Theory and Practice 29 (1), 91-112.
Shinnar, R.S., Giacomin, O., Janssen, F., 2012. Entrepreneurial Perceptions and Intentions: The Role of Gender and Culture, Entrepreneurship Theory and Practice 36 (3), 465-493.
Shook, C.L., Priem, R.L., McGee, J.E., 2003. Venture Creation and the Enterprising Individual: A Review and Synthesis, Journal of Management 29 (3), 379-399.
Shrout, P.E., Bolger, N., 2002. Mediation in Experimental and Nonexperimental Studies: New Procedures and Recommendations. Psychological Methods 7 (4), 422.

Shuman, J.C., Sussman, G., Shaw, J.J., 1985. «Business Plans and the Start-Up of Rapid-Growth Companies», J.Hornaday, E.Shils, J.Timmons Et K.Vesper (Éd.), Frontiers of Entrepreneurship Research, 294-313.
Silva, M.J., Trigo, V., Antunes, R., 2011. Institutional Approach and Enterprise Creation: Support Systems in the Case of Small City in Rural and Peripheral Areas of Portugal, Economic Interferance 13, 29.
Siu, W., Lo, E.S., 2013. Cultural Contingency in the Cognitive Model of Entrepreneurial Intention, Entrepreneurship Theory and Practice 37 (2), 147-173.
Siwale, J.N., 2006. The Role of Loan Officers and Clients in the Diffusion of Microfinance: A Study of PRIDE Zambia and CETZAM in Zambia. PhD Thesis, Dhuram, UK
Small Business Charter, 2014. Small Business Charter, UK, http://smallbusinesscharter.org/about/why/ accessed 19.04.2014
Smiles, S., 1859. Self-Help. 1859, London 38, 39.
Smith, A., 1776. An Inquiry into the Nature and Causes of the Wealth of Nations,(1776), New York: Modern Library.
Smith, K., Beasley, M., 2011. Graduate Entrepreneurs: Intentions, Barriers and Solutions, Education Training 53 (8/9), 722-740.
Sobel, M.E., 1982. Asymptotic Confidence Intervals for Indirect Effects in Structural Equation Models, Sociological Methodology 13 (1982), 290-312.
Solesvik, M., Westhead, P., Matlay, H., Parsyak, V.N., 2013. Entrepreneurial Assets and Mindsets: Benefit from University Entrepreneurship Education Investment, Education Training 55 (8/9), 2-2.
Solomon, G., 2007. An Examination of Entrepreneurship Education in the United States, Journal of Small Business and Enterprise Development 14 (2), 168-182.
Solomon, G.T., Duffy, S., Tarabishy, A., 2002. The State of Entrepreneurship Education in the United States: A Nationwide Survey and Analysis.
Solomon, G.T., Winslow, E.K., 1988. Toward a Descriptive Profile of the Entrepreneur. The Journal of Creative Behavior.
Soriano, D.R., 2009. Handbook of Research in Entrepreneurship Education, Academy of Management Learning & Education 8 (2), 305-308.
Souitaris, V., Zerbinati, S., Al-Laham, A., 2007. Do Entrepreneurship Programmes Raise Entrepreneurial Intention of Science and Engineering Students? The Effect of Learning, Inspiration and Resources, Journal of Business Venturing 22 (4), 566-591.
Spencer, J.W., Gomez, C., 2004. The Relationship among National Institutional Structures, Economic Factors, and Domestic Entrepreneurial Activity: A Multicountry Study, Journal of Business Research 57 (10), 1098-1107.
Stanworth, M.J.K., Curran, J., 1973. Management Motivation in the Smaller Business. Gower Press.
Steel, P., König, C.J., 2006. Integrating Theories of Motivation, Academy of Management Review 31 (4), 889-913.
Steers, R.M., Braunstein, D.N., 1976. A Behaviorally-Based Measure of Manifest Needs in Work Settings, Journal of Vocational Behavior 9 (2), 251-266.
Stenholm, P., Acs, Z.J., Wuebker, R., 2013. Exploring Country-Level Institutional Arrangements on the Rate and Type of Entrepreneurial Activity, Journal of Business Venturing 28 (1), 176-193.
Stevenson, H.H., Jarillo, J.C., 1990. A Paradigm of Entrepreneurship: Entrepreneurial Management. Springer.
Stewart Jr, W.H., Roth, P.L., 2001. Risk Propensity Differences between Entrepreneurs and Managers: A Meta-Analytic Review. Journal of Applied Psychology 86 (1), 145.
Stewart, W., 1996. Psychological Correlates of Entrepreneurship. New York.
Storey, D.J., 2000. *Six Steps to Heaven: Evaluating the Impact of Public Policies to Support Small Business in Developed Economies*, in: Sexton, D.L., Landstrom, H. (Eds.), *The Blackwell Handbook of Entrepreneurship*. Blackwell, Oxford, pp. 176-193.
Stumpf, S., Dunbar, R., Mullen, T., 1991. Simulations in Entrepreneurship Education: Oxymoron Or Untapped Opportunity, Frontiers of Entrepreneurship Research 11, 681-694.
Sullivan, R., 2000. Entrepreneurial Learning and Mentoring, International Journal of Entrepreneurial Behaviour & Research 6 (3), 160-175.

Szyliowicz, D., Galvin, T., 2010. Applying Broader Strokes: Extending Institutional Perspectives and Agendas for International Entrepreneurship Research, International Business Review 19 (4), 317-332.
Tabachnick, B.G., Fidell, L., 2012. Using Multivariate Statistics: International Edition. Pearson.
Tashakkori, A., Teddlie, C., 2010. Sage Handbook of Mixed Methods in Social & Behavioral Research. Sage.
Tashakkori, A., Teddlie, C., 1998. Mixed Methodology: Combining Qualitative and Quantitative Approaches. SAGE Publications, Incorporated.
Taylor, D.S., 2006. Culture and Customs of Zambia. Greenwood Press, Westport, USA.
Taylor, A.B., MacKinnon, D.P., Tein, J., 2008. Tests of the Three-Path Mediated Effect, Organizational Research Methods 11 (2), 241-269.
Tegtmeir, S., 2012. Evaluating Introductory Lectures in Entrepreneurship: Empirical Implications Based on the Theory of Planned Behaviour, International Review of Entrepreneurship 10 (1).
Tendler, J., 2002. Small Firms, the Informal Sector, and the Devil's Deal, IDS Bulletin 33 (3), 1-15.
The Economist, 2014. State Capitalism in the Dock; the Performance of State Owned Enterprises has been Shockingly Bad
Thompson, E.R., 2009. Individual Entrepreneurial Intent: Construct Clarification and Development of an Internationally Reliable Metric, Entrepreneurship Theory and Practice 33 (3), 669-694.
Thurstone, L.L., 1947. Multiple-Factor Analysis; a Development and Expansion of the Vectors of Mind.
Timmons, J.A., Muzyka, D.F., Stevenson, H.H., Bygrave, W.D., 1987. Opportunity Recognition: The Core of Entrepreneurship, Frontiers of Entrepreneurship Research 109, 123.
Tkachev, A., Kolvereid, L., 1999. Self-Employment Intentions among Russian Students, Entrepreneurship & Regional Development 11 (3), 269-280.
Tonelli, M., Dalglish, C.L., 2011. Entrepreneurial Becoming: An Educational Pathway Out of Poverty.
Trice, A.D., 1991. Stability of Children's Career Aspirations, The Journal of Genetic Psychology 152 (1), 137-139.
Turgot, A.R.J., 1766. Baron De l'Aulne (1766), Reflections on the Formation and Distribution of Riches.
Ucbasaran, D., Westhead, P., Wright, M., 2008. Opportunity Identification and Pursuit: Does an Entrepreneur's Human Capital Matter? Small Business Economics 30 (2), 153-173.
Ucbasaran, D., Westhead, P., Wright, M., Binks, M., 2003. Does Entrepreneurial Experience Influence Opportunity Identification? The Journal of Private Equity 7 (1), 7-14.
Uhlmann, E., Swanson, J., 2004. Exposure to Violent Video Games Increases Automatic Aggressiveness, Journal of Adolescence 27 (1), 41-52.
UKBI, 2014. United Kingdom Business Incubation Association, http://www.ukbi.co.uk/resources/business-incubation.aspx accessed 22.04.2014.
Unger, J.M., Rauch, A., Frese, M., Rosenbusch, N., 2011. Human Capital and Entrepreneurial Success: A Meta-Analytical Review, Journal of Business Venturing 26 (3), 341-358.
van Burg, E., Romme, A.G.L., 2014. Creating the Future Together: Toward a Framework for Research Synthesis in Entrepreneurship, Entrepreneurship Theory and Practice.
Van der Sijde, P., 2008. Teaching Entrepreneurship: Cases for Education and Training. Springer.
Van Stel, A., Storey, D.J., Thurik, A.R., 2007. The Effect of Business Regulations on Nascent and Young Business Entrepreneurship, Small Business Economics 28 (2-3), 171-186.
Vanevenhoven, J., Liguori, E., 2013. The Impact of Entrepreneurship Education: Introducing the Entrepreneurship Education Project, Journal of Small Business Management 51 (3), 315-328.

Veciana, J.M., Urbano, D., 2008. The Institutional Approach to Entrepreneurship Research. Introduction, International Entrepreneurship and Management Journal 4 (4), 365-379.
Veciana, J.M., Aponte, M., Urbano, D., 2005. University Students' Attitudes Towards Entrepreneurship: A Two Countries Comparison, The International Entrepreneurship and Management Journal 1 (2), 165-182.
Verheul, I., Wennekers, S., Audretsch, D., Thurik, R., 2002. An Eclectic Theory of Entrepreneurship: Policies, Institutions and Culture, Entrepreneurship: Determinants and Policy in a European-US Comparison, 11-81.
Verheul, I., Thurik, R., Grilo, I., van der Zwan, P., 2012. Explaining Preferences and Actual Involvement in Self-Employment: Gender and the Entrepreneurial Personality, Journal of Economic Psychology 33 (2), 325-341.
Volery, T., Müller, S., Oser, F., Naepflin, C., del Rey, N., 2013. The Impact of Entrepreneurship Education on Human Capital at Upper-Secondary Level, Journal of Small Business Management 51 (3), 429-446.
von Graevenitz, G., Harhoff, D., Weber, R., 2010. The Effects of Entrepreneurship Education, Journal of Economic Behavior & Organization 76 (1), 90-112.
Vroom, V.H., 1964. Work and Motivation, 1964, NY: John Wiley &sons, 47-51.
Walras, L., Jaffé, W., 1898. Elements of Pure Economics, Or, the Theory of Social Wealth, Published in 1984 ed. Orion Editions Philadelphia.
Walter, S.G., Parboteeah, K.P., Walter, A., 2011. University Departments and Self-Employment Intentions of Business Students: A Cross-Level Analysis, Entrepreneurship Theory and Practice.
Wang, C.L., Chugh, H., 2014. Entrepreneurial Learning: Past Research and Future Challenges, International Journal of Management Reviews 16 (1), 24-61.
Wang, Y., Ahmed, P.K., 2009. The Moderating Effect of the Business Strategic Orientation on eCommerce Adoption: Evidence from UK Family Run SMEs, The Journal of Strategic Information Systems 18 (1), 16-30.
Webb, E.J., Campbell, D.T., Schwartz, R.D., Sechrest, L., 1966. Unobtrusive Methods: Nonreactive Research in the Social Sciences.
Weber, M., 1947. The Theory of Economic and Social Organization, Trans.AM Henderson and Talcott Parsons.New York: Oxford University Press.
Webster, F.A., 1977. Entrepreneurs and Ventures: An Attempt at Classification and Clarification, Academy of Management Review 2 (1), 54-61.
Wegner, D.M., 2002. The Illusion of Conscious Will. MIT press.
Welter, F., Smallbone, D., 2011. Institutional Perspectives on Entrepreneurial Behavior in Challenging Environments, Journal of Small Business Management 49 (1), 107-125.
Wennekers, S., Thurik, R., 1999. Linking Entrepreneurship and Economic Growth, Small Business Economics 13 (1), 27-56.
Wennekers, S., Van Wennekers, A., Thurik, R., Reynolds, P., 2005. Nascent Entrepreneurship and the Level of Economic Development, Small Business Economics 24 (3), 293-309.
Whitehead, A.N., 1967. Aims of Education. Simon and Schuster.
Wicks, D., 2001. Institutionalized Mindsets of Invulnerability: Differentiated Institutional Fields and the Antecedents of Organizational Crisis, Organization Studies 22 (4), 659-692.
Williams, C.C., 2009. The Motives of Off-the-Books Entrepreneurs: Necessity-Or Opportunity-Driven? International Entrepreneurship and Management Journal 5 (2), 203-217.
Williams, S., Turnbull, A., 1997. First Moves into Entrepreneurship Teaching in Scottish Universities; a Consortium Approach, The Robert Gordon University.
Williamson, N., Beadle, S., Charalambous, S., 2013. Enterprise Education Impact in Higher Education and further Education in UK.
Wilson, D., Sperber, D., 1992. Relevance Theory. Wiley Online Library.
Wilson, K., Vyakarnam, S., Volkmann, C., Mariotti, S., Rabuzzi, D., 2009. Educating the Next Wave of Entrepreneurs: Unlocking Entrepreneurial Capabilities to Meet the Global Challenges of the 21st Century. In: World Economic Forum: A Report of the Global Education Initiative, April 2009.

Wilson, F., Kickul, J., Marlino, D., 2007. Gender, Entrepreneurial Self-Efficacy, and Entrepreneurial Career Intentions: Implications for Entrepreneurship Education, Entrepreneurship: Theory & Practice 31 (3), 387-406.
Witty, A., 2013. Encouraging a British Invention Revolution: Sir Andrew Witty's Review of Universities and Growth, http://smallbusinesscharter.org/images/media/mediasbsc_-_andrew_witty_report_-_147_pps.pdf accessed 24.04.2014.
Wood, R.E., Goodman, J.S., Beckmann, N., Cook, A., 2008. Mediation Testing in Management Research A Review and Proposals, Organizational Research Methods 11 (2), 270-295.
Woodier-Harris, N.R., 2010. Evaluating the Impact of SPEED on Students' Career Choices: A Pilot Study, Education Training 52 (6/7), 463-476.
Woodruff, C., 2001. Review of De Soto's" the Mystery of Capital".
Wooldridge, J., 2012. Introductory Econometrics: A Modern Approach. Cengage Learning.
Wooldridge, J.M., 2010. Econometric Analysis of Cross-Sectional&Panel Data. MIT press.
Wooten, K.C., Timmerman, T.A., Folger, R., 1999. The use of Personality and the Five-Factor Model to Predict New Business Ventures: From Outplacement to Start-Up, Journal of Vocational Behavior 54 (1), 82-101.
World Bank, 2014. Country Data for Zambia, http://www.worldbank.org/en/country/zambia accessed july 13, 2014 18:00 Hours UK Time.
World Bank, 2013. Zambia's Job Challenge, Realities on the Ground, World Bank Zambia Economic Brief.
World Bank, 2012. Doing Business 2013: Smarter Regulations for Small and Medium-Size Enterprises. World Bank Publications.
Wu, S., Wu, L., 2008. The Impact of Higher Education on Entrepreneurial Intentions of University Students in China, Journal of Small Business and Enterprise Development 15 (4), 752-774.
Wu, S.Y., 1989. Production, Entrepreneurship, and Profits. Basil Blackwell Oxford.
Wu, A., Zumbo, B., 2008. Understanding and using Mediators and Moderators, Social Indicators Research 87 (3), 367-392.
Zahra, S.A., 1993. Environment, Corporate Entrepreneurship, and Financial Performance: A Taxonomic Approach, Journal of Business Venturing 8 (4), 319-340.
Zahra, S.A., Covin, J.G., 1995. Contextual Influences on the Corporate Entrepreneurship-Performance Relationship: A Longitudinal Analysis, Journal of Business Venturing 10 (1), 43-58.
Zellweger, T., Sieger, P., Halter, F., 2011. Should I Stay Or should I Go? Career Choice Intentions of Students with Family Business Background, Journal of Business Venturing 26 (5), 521-536.
Zhang, Y., Duysters, G., Cloodt, M., 2013. The Role of Entrepreneurship Education as a Predictor of University Students' Entrepreneurial Intention, International Entrepreneurship and Management Journal, 1-19.
Zhao, H., Seibert, S.E., 2006. The Big Five Personality Dimensions and Entrepreneurial Status: A Meta-Analytical Review. Journal of Applied Psychology 91 (2), 259.
Zhao, H., Seibert, S.E., Lumpkin, G.T., 2010a. The Relationship of Personality to Entrepreneurial Intentions and Performance: A Meta-Analytic Review, Journal of Management 36 (2), 381-404.
Zhao, X., Lynch, J.G., Chen, Q., 2010b. Reconsidering Baron and Kenny: Myths and Truths about Mediation Analysis, Journal of Consumer Research 37 (2), 197-206.
Zhao, H., Seibert, S.E., Hills, G.E., 2005. The Mediating Role of Self-Efficacy in the Development of Entrepreneurial Intentions, Journal of Applied Psychology 90 (6), 1265-1272.
Zhou, Z., Cal, L., 2010. On the Periodical Development of Technical Education, Vocational and Entrepreneurship Training in Zambia, Studies in Foreign Education 12 (12), 163-183.

APPENDICES

Appendix 2.1 - Map of Zambia in the Context of Africa

Source: http://www.worldatlas.com/webimage/countrys/africa/zm.htm, March 18, 2014 14:00hrs UK

Appendix 7.1 - Ethical Approval Notification- Interviews

UNIVERSITY OF WOLVERHAMPTON
KNOWLEDGE • INNOVATION • ENTERPRISE

Business School

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23rd November, 2012

Mr Bruce Mwiya,
14 New Heath Close
Wednesfield
Wolverhampton
WV11 1XX

Dear Mr Mwiya,

Re:- Application for Ethical Approval of Research (PhD).

I am pleased to confirm the approval by the Student Management Board at their meeting this week of your application for Ethical Approval.

Yours sincerely

Dr Yong Wang
Chair of Student Management Board
University of Wolverhampton Business School

Cc Dr Graham Tate & Dr Ian McKeown

Appendix 7.2 -Ethical Approval Notification-Survey

UNIVERSITY OF WOLVERHAMPTON
KNOWLEDGE • INNOVATION • ENTERPRISE

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14th February, 2013

Mr Bruce Mwiya,

Dear Mr Mwiya,

Re:- Application for Ethical Approval of Research (PhD).

I am pleased to confirm the approval by the Student Management Board at their meeting yesterday of your application for Ethical Approval.

Yours sincerely

Dr Yong Wang
Chair of Student Management Board
University of Wolverhampton Business School

Cc Dr Graham Tate & Dr Ian McKeown

Appendix 7.3 - Letter of Introduction to Vice Chancellors at Zambian Universities

…February 2013,

The Vice Chancellor
……..
……..
ZAMBIA

Dear Sir/ Madam

INTRODUCING THE GRADUATE ENTREPRENEURIAL INTENTION PROJECT

We are writing to request for permission to access potential participants in your university to this research project being undertaken by Bruce Mwiya, a doctoral researcher at the University of Wolverhampton in the United Kingdom (UK). The purpose of this research is to investigate factors influencing an individual's intention to start a business and the role of entrepreneurship education in the context of Zambia. The focus of the study is final year university students in both private and public universities across different degree disciplines. The motivation for this study is to contribute to multifaceted approaches toward addressing the problems of graduate unemployment and slow economic growth in both developing and developed countries. The study is sponsored by the Commonwealth Scholarships Commission UK and the Copperbelt University in Zambia

Data Collection Procedures
The project has two data collection parts. Part one, which has already been concluded, involved interviews with entrepreneurship educators, practitioners and university students. As one of the prominent universities in Zambia, your university has been selected for this second part (the survey). This will involve completion of a survey questionnaire that asks university students basic questions about their career preferences, education and the country's environment for new businesses.

Ethical Approval and Results Publication
This study has been approved by the Research Ethics Committee of the University of Wolverhampton Business School, West Midlands, UK. All information provided in the questionnaire will remain absolutely confidential and will be used anonymously for academic purposes only. Thus the anonymity of all participating organisations and individuals responding to the questionnaires is guaranteed. It is up to each participant (the student) to decide whether or not to take part. Participants are free to withdraw at any time. Participants are also free to refuse to answer any question they feel uncomfortable to answer. The results of the project will be published in a doctoral thesis and academic Journals. If you have any query regarding this, please contact the undersigned director of studies or the researcher.

Researcher Contact Information
Bruce M.K. Mwiya, Doctoral Researcher, University of Wolverhampton Business School, Wolverhampton WV1 1AD, United Kingdom TEL: +44 7513847860, Email: bruce.mwiya@wlv.ac.uk . OR
Bruce M.K. Mwiya, Lecturer, School of Business, Copperbelt University, Jambo Drive , Riverside, P.O. Box 21692, Kitwe, Zambia, Office Tel: +260212227946, Fax+260 212 229354, Email: bruce.mwiya@cbu.ac.zm

We will be grateful if your institution will allow the researcher to conduct this survey. We wish to thank you very much for your cooperation and help.

Yours faithfully,

Dr Yong Wang
Director of Studies
Tel: +441902 323964 Email **yong.wang@wlv.ac.uk**

Appendix 7.4 - Interview Questionnaire

GRADUATE ENTREPRENEURIAL INTENTION PROJECT

The purpose of this study is to examine the factors influencing an individual's intention to start a business and the role of entrepreneurship education in the context of a developing country, Zambia. Perspectives are being sought through interviews with practitioners in entrepreneurship support institutions, educators, and entrepreneurship education final year students in universities. You have been selected to participate in the interviews.

You are encouraged to give your views freely and accurately. Please note that your name will not be shown on any document associated with this research. ***All information provided in this interview will remain absolutely confidential and will be used anonymously for academic purposes only***. Thank you very much for your cooperation and help without which this study would not be successful.

Bruce M.K. Mwiya
Doctoral Researcher
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Wolverhampton WV11 1AD
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SECTION A: BACKGROUND INFORMATION A

1. Institution……
2. Position (Practitioner)……..
4. Qualifications……..
3. Age.....
4. Gender……..
5. What does your institution do in relation to promoting Business start-ups?.....
5.1Who are the clients of the Institutions regarding new business promotion? .....
5.2 How does your institution serve these clients? ……..
6. How long has your institution been providing this service?.....
7. How long have you been providing this service as an individual?.....

SECTION A: BACKGROUND INFORMATION A

1. University ……
2. Lecturing Position……..
3. Qualifications……..
4. Age.....
5. Gender……..
6. How long has your university been providing entrepreneurship education?.....
6.1 To which categories of students is entrepreneurship education provided in your university? ……
6.2 How is entrepreneurship education delivered in your university?.....
7. For how long have you been involved in delivering entrepreneurship education yourself as an individual? .....

SECTION A: BACKGROUND INFORMATION A

1. University ……
2. Full Time student YES☐ NO ☐
3. What degree programme are you currently enrolled in? ……..
4. In which School are you undertaking your study ?……
5. What year are you in your studies?……
6. Age.....
7. Gender……..

SECTION B: INDIVIDUAL PREDISPOSITIONS AND INTENTION TO START A BUSINESS B

8.0 Do you agree that individuals with certain personal characteristics are more likely to start a business?
……

8.1 What individual characteristics are likely to predispose an individual to have an intention to start a business?
……

8.2 Briefly explain whether the following characteristics would influence business start-up intention and how?

a. risk taking propensity
b. locus of control
c. any other characteristics

SECTION C: INSTITUTIONAL FACTORS AND INTENTION TO START A BUSINESS C

9.0 Regulatory Institutions

9.1 Do you think local/central government support has an impact on an individual's intention to start a business? If so, how? ……

9.2 What support do you think should be available from central and local government to enable business start-ups?
.....

9.3 Though the list is not comprehensive, do you think the following support, if available, would affect an individual's intention to start a business? If so how?

a) Government setting aside contracts for new and small businesses
b) The government sponsors organisations that help new businesses start
c) There is sufficient debt and other funding available for new firms
d) There is sufficient government subsidies available for new firms
e) Laws (rules and regulations) are simple, straightforward and favourable for starting and running a business
f) Universities and other academic institutions provide advisory and development support for new businesses

9.4 What support is available for individuals starting new businesses?.....

10.0 Cognitive Institutions

10.1 Do you think knowledge about how to start, operate and grow a business, if generally held and shared among people would affect an individual's intention to start a business? If so, how?…….

10.2 Though the list is not exhaustive, do you think the following information and knowledge, if generally held and shared among people, would affect an individual's intention to start a business?

a) People generally know how to legally protect a new business

b) Those who start new businesses know how to deal with and manage risk
c) Most people know where to find information about markets for their products
d) Primary and secondary education provides adequate attention to starting new firms
e) The vocational, professional and continuing education systems provide good and adequate preparation for starting new firms

10.3 What is your assessment of experience, information and knowledge about how to start, protect, operate and grow a business among people? Is such knowledge and experience generally held and shared? If so how?.....

11.0 Normative Institutions

11.1 Do you think an individual's intention to start a business will be affected if entrepreneurship is generally admired as a high status career path? If so how? .....

11.2 What other societal attitudes do you think would affect an individual's intention to start a business?.....

11.3Though the list is not comprehensive, do you think the following attitudes by people about entrepreneurship will affect an individual's intention to start a business?

a) Turning new ideas into businesses is an admired career path
b) innovative and creative thinking is viewed as the route to success
c) People tend to greatly admire those who start their own businesses

11.4 What is your assessment of the attitude toward entrepreneurship in your country? Is it favourable? How?.....

SECTION D: ENTREPRENEURSHIP EDUCATION

12.0 Do you think entrepreneurship education would contribute to the following? If so how?.....

a) Increase an individual's understanding of the actions he/she has to take during the business start-up (i.e. what needs to be done?),
b) Enhance an individual's practical management skills to start a business (i.e. how do I start the venture?),
c) Enhance an individual's ability to develop networks (i.e. who do I need to know)?,
d) Enhance an individual's ability to identify an opportunity (i.e. when do I need to act?)
e) Increase an individual's understanding of the attitudes, values and motivation of entrepreneurs (i.e. why do entrepreneurs act?)

12.1 In your opinion, how does entrepreneurship education affect the influence of personal characteristics on an individual's intention to start a business? ……

12.2 In your opinion, how does entrepreneurship education affect the influence of government and other organisations' support for new start-ups on an individual's intention to start a business? .....

12.3 In your opinion, how does entrepreneurship education affect the influence of generally shared information and knowledge in a society about how to start and run a business on an individual's intention to start a firm?.....

12.4 In your opinion, how does entrepreneurship education affect the influence of society's attitudes toward entrepreneurship on an individual's intention to start a business? .....

Thank you for your cooperation and your time

Appendix 7.5 - Survey Questionnaire

GRADUATE ENTREPRENEURIAL INTENTION PROJECT

The purpose of this research is to investigate factors influencing an individual's intention to start a business and the role of entrepreneurship education in the context of Zambia. You have been randomly selected to participate in the survey. *You are encouraged to give your views freely and accurately. All information provided in this questionnaire will remain absolutely confidential and will be used anonymously for academic purposes only.* Thank you very much for your cooperation and help. Without this, the study would not be successful.

Bruce M.K. Mwiya
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SECTIONS A: PERSONAL PROFILE

Demographics

1. Age: _____
2. Gender: ☐ Male ☐ Female
3. What level of education have your parents achieved?
   a. Father: ☐ Primary ☐ Secondary ☐ Vocational training/college ☐ University ☐ Other (specify)...
   b. Mother: ☐ Primary ☐ Secondary ☐ Vocational training/college ☐ University ☐ Other (specify)...
4. What are their present occupations?

	Private sector employee	Public sector employee	Self-employed or entrepreneur	Retired	Unemployed	Other (specify).....
a. Father:	☐	☐	☐	☐	☐	☐
b. Mother:	☐	☐	☐	☐	☐	☐

Education and Working Experience

5. What degree programme are you studying?_____
6. When do you expect to complete your study?
   ☐ This year ☐ Next year ☐ Later (Please , specify).....
7. What University are you at?_____
8. Do you have any employment experience? ☐ Yes ☐ No

   If yes:
   a. In what capacity? (If you were employed in different capacities, please choose the one you were employed the longest) _____
   b. Have you been in charge of other people? ☐ Yes ☐ No
   c. How many years of employment do you have? _____
   d. How many employees does your current/last employer have? _____

9. Have you ever been self-employed or the owner of a Small and Medium-sized Enterprise (SME)?
   ☐ Yes ☐ No

   If yes:
   a. How long? (Number of years) _____
   b. How long has it been since you ceased self-employment? (Number of years, if still self-employed write 0)___

Prior Family Entrepreneurial Exposure

10. Does a parent currently own or have they ever owned a business? ☐ Yes ☐ No

	1	2	3	4	5
If yes, to what extent may he/she/they be considered a 'good entrepreneur'? (please rate your perception on a scale of 1 to 5 where 1 =strongly disagree, 3= neutral, 5= strongly agree by ticking in one box only)	☐	☐	☐	☐	☐

11. Does a family member other than a parent currently own or have they ever owned a business? ☐ Yes ☐ No

	1	2	3	4	5
If yes, To what extent may he/she/they be considered a 'good entrepreneur'? (please rate your perception on a scale of 1 to 5 where 1 =strongly disagree, 3= neutral, 5= strongly agree by ticking in one box only)	☐	☐	☐	☐	☐

12. Have you ever worked in a family member's business? ☐ Yes ☐ No

13. Please indicate your level of awareness about business associations, support bodies and other sources of assistance for entrepreneurs by rating on a scale between 1 and 5, where 1 (little knowledge), 3 (neutral) to 5 (complete knowledge).

	1	2	3	4	5
Private associations and Non-government Organisations	☐	☐	☐	☐	☐
Public support bodies and institutions	☐	☐	☐	☐	☐
Specific training for young entrepreneurs	☐	☐	☐	☐	☐
Loans in specially favourable terms	☐	☐	☐	☐	☐
Technical aid for business start-ups	☐	☐	☐	☐	☐

SECTION B: ENTREPRENEURIAL ATTITUDES AND INTENTION

14. **Occupational Status Choice Intention**

a. If you were to choose between running your own business and being employed by someone, what would you prefer? (Indicate below by ticking in one box only the extent to which you agree with each of the two statements on scale between 1 and 5 where 1=strongly disagree, 3=neutral and 5=strongly agree)

	1	2	3	4	5
I would prefer to be self-employed (be an entrepreneur)	☐	☐	☐	☐	☐
I would prefer to be employed by someone (by an organisation)	☐	☐	☐	☐	☐

b. How likely is it that you will pursue a career as self-employed? (Indicate below by ticking in one box only on a scale 1 to 5 where 1=very unlikely, 3= neutral and 5=very likely)

1	2	3	4	5
☐	☐	☐	☐	☐

c. How likely is it that you will pursue a career as employed in an organisation? (Indicate below by ticking in one box only on a scale 1 to 5 where 1=very unlikely, 3= neutral and 5=very likely)

1	2	3	4	5
☐	☐	☐	☐	☐

Subjective Norm

15. If you decided to create a firm, would people close to you approve of that decision? Indicate by rating on a scale between 1 and 5 where 1=strongly disagree, 3= neutral and 5=strongly agree.

	1	2	3	4	5
My friends would approve of my decision to start a business	☐	☐	☐	☐	☐
My immediate family would approve of my decision to start a business	☐	☐	☐	☐	☐
My colleagues would approve of my decision to start a business	☐	☐	☐	☐	☐

Perceived feasibility

16. Please indicate the extent to which you agree with the following statements regarding your entrepreneurial capability on a scale of 1 to 5 where 1= strongly disagree, 3= neutral and 5= strongly agree.

	1	2	3	4	5
To start a firm and keep it working would be easy for me	☐	☐	☐	☐	☐
I am prepared to start a viable firm	☐	☐	☐	☐	☐
I can control the creation process of a new firm	☐	☐	☐	☐	☐
I know the necessary practical details to start a firm	☐	☐	☐	☐	☐
I know how to develop an entrepreneurial project	☐	☐	☐	☐	☐
If I tried to start a firm, I would have a high probability of succeeding	☐	☐	☐	☐	☐

Personal Attitude

17. Please indicate your level of agreement with the following statements regarding your attitude to entrepreneurship on a scale between 1 and 5, where 1=strongly disagree, 3 = neutral and 5=strongly agree.

	1	2	3	4	5
Being an entrepreneur implies more advantages than disadvantages to me	☐	☐	☐	☐	☐
A career as entrepreneur is attractive for me	☐	☐	☐	☐	☐
If I had the opportunity and resources, I would like to start a firm	☐	☐	☐	☐	☐
Being an entrepreneur would entail great satisfactions for me	☐	☐	☐	☐	☐
Among various options, I would rather be an entrepreneur	☐	☐	☐	☐	☐

SECTION C : COUNTRY INSTITUTIONAL PROFILE FOR ENTREPRENEURSHIP

Regulatory Dimension

18. Think of the country in which you live and tell us the extent to which you agree with the following statements (on a scale between 1 and 5 where 1=totally disagree, 3=neutral and 5 = totally agree)

	1	2	3	4	5
Government organisations in this country assist individuals starting their own businesses	☐	☐	☐	☐	☐
The government sets aside contracts for new small businesses	☐	☐	☐	☐	☐
Local and central governments have special support available for individuals who want to start a new business	☐	☐	☐	☐	☐
The government sponsors organisations that help new businesses to develop	☐	☐	☐	☐	☐
Even after failing in an earlier business, entrepreneurs are assisted by the government in start-ups	☐	☐	☐	☐	☐
In my country, there is sufficient financial support available for new start-ups	☐	☐	☐	☐	☐
In my country there are sufficient government subsidies available for new firms	☐	☐	☐	☐	☐
In my country state laws (rules and regulations) are adverse to starting and running a business	☐	☐	☐	☐	☐
In my country, universities and other learning institutions provide advisory and development support for new businesses	☐	☐	☐	☐	☐

Cognitive Dimension

19. Think of the country in which you live and tell us the extent to which you agree with the following statements (on a scale between 1 and 5 where 1=totally disagree, 3=neutral and 5 = totally agree)

	1	2	3	4	5
In my country, individuals know how to legally register and protect a new business	☐	☐	☐	☐	☐
In my country, those who intend to start new businesses know how to manage risk	☐	☐	☐	☐	☐
In my country, most people know where to find information about markets for their products	☐	☐	☐	☐	☐
In my country, teaching at all levels of formal education encourages creativity	☐	☐	☐	☐	☐
In my country, primary and secondary education draws adequate attention to starting new firms	☐	☐	☐	☐	☐
In my country, teaching at all levels of formal education encourages self-sufficiency and initiative	☐	☐	☐	☐	☐
In my country, university and college education provides adequate preparation for starting new firms	☐	☐	☐	☐	☐
In my country, vocational, professional and continuing formal education systems provide good and adequate preparation for starting new firms	☐	☐	☐	☐	☐

Normative Dimension

20. Think of the country in which you live and tell us the extent to which you agree with the following statements (on a scale between 1 and 5 where 1=totally disagree, 3=neutral and 5 = totally agree)

	1	2	3	4	5
Turning new ideas into businesses is an admired career path in this country	☐	☐	☐	☐	☐
In this country, innovative and creative thinking is viewed as the route to success	☐	☐	☐	☐	☐
Entrepreneurs are admired in this country	☐	☐	☐	☐	☐
People in this country tend to greatly admire those who start their own businesses	☐	☐	☐	☐	☐

Country Employment Situation and Prospects

21. Think of the reasons why individuals start businesses in this country and indicate the extent to which you agree with the following statements (on a scale between 1 and 5 where 1 totally disagree, 3=neutral and 5=totally agree)

	1	2	3	4	5
In this country, individuals start businesses because they want to take advantage of a unique market opportunity	☐	☐	☐	☐	☐
In this country individuals start businesses because of lack of job opportunities	☐	☐	☐	☐	☐
For university graduates, it is not easy to find a job in my country	☐	☐	☐	☐	☐
I will have to start up a business because there are no jobs available	☐	☐	☐	☐	☐
I will only set up own business if I am unemployed	☐	☐	☐	☐	☐

SECTION D: PERSONAL PREDISPOSITIONS

Risk Taking Tendency

22. How well does each of the following statements describe you as a person? Indicate the extent to which you agree (on a scale between 1 and 5, where 1= strongly disagree 3=neutral and 5= strongly agree).

	1	2	3	4	5
I like trying new things (e.g. exotic foods, going to new places)	☐	☐	☐	☐	☐
I am willing to take significant risk if the possible rewards are high enough	☐	☐	☐	☐	☐
When I am about to do something, I really dislike the idea that I do not know what is going to happen	☐	☐	☐	☐	☐
I have taken a risk in the last six months	☐	☐	☐	☐	☐
I enjoy the excitement of uncertainty and risk	☐	☐	☐	☐	☐
When I travel, I tend to use new routes	☐	☐	☐	☐	☐

Locus of Control

23. How well does each of the following statements describe you as a person? Indicate the extent to which you agree (on a scale between 1 and 5, where 1= strongly disagree 3=neutral and 5= strongly agree).

	1	2	3	4	5
When I get what I want, it is usually because I am lucky	☐	☐	☐	☐	☐
When I make plans, I am almost certain I can make them work	☐	☐	☐	☐	☐
Every time I try to get ahead, something or somebody stops me	☐	☐	☐	☐	☐
When I get what I want, it is usually because I worked hard for it	☐	☐	☐	☐	☐
I have enough control over the direction of my life	☐	☐	☐	☐	☐
Whether or not I am successful in life depends mostly on my ability	☐	☐	☐	☐	☐

Need for Achievement

24. How well does each of the following statements describe you as a person? Indicate the extent to which you agree (on a scale between 1 and 5, where 1= strongly disagree 3=neutral to 5= strongly agree).

	1	2	3	4	5
Hard work is always something I engage myself to	☐	☐	☐	☐	☐
I frequently think about ways I could earn a lot of money	☐	☐	☐	☐	☐
I believe I would enjoy having authority over other people	☐	☐	☐	☐	☐
I find satisfaction in exceeding my previous performance even if I do not outperform others	☐	☐	☐	☐	☐
I would like an important job where people look up to me	☐	☐	☐	☐	☐
I care about performing better than others on a task	☐	☐	☐	☐	☐
I would rather do tasks which appear challenging and difficult than the ones in which I feel confident and relaxed.	☐	☐	☐	☐	☐

Individual Characteristics

25. How well does each of the following statements describe you as a person? Indicate the extent to which you agree (on a scale between 1 and 5, where 1= strongly disagree 3=neutral to 5= strongly agree).

	1	2	3	4	5
I see myself as someone who is reserved	☐	☐	☐	☐	☐
I see myself as someone who generally trusts other people	☐	☐	☐	☐	☐
I see myself as someone who tends to be lazy	☐	☐	☐	☐	☐
I see myself as someone who is relaxed, handles stress well	☐	☐	☐	☐	☐
I see myself as someone who has few artistic interests	☐	☐	☐	☐	☐
I see myself as someone who is outgoing and sociable	☐	☐	☐	☐	☐
I see myself as someone who tends to find fault with others	☐	☐	☐	☐	☐
I see myself as someone who does a thorough job	☐	☐	☐	☐	☐
I see myself as someone who gets nervous easily	☐	☐	☐	☐	☐
I see myself as someone who has an active imagination/thinks new ideas often	☐	☐	☐	☐	☐
I see myself as someone who is considerate and kind to almost everyone	☐	☐	☐	☐	☐

26. Considering all advantages and disadvantages (economic, personal, social recognition, job stability, etc.), indicate your level of attraction towards each of the following work options (on a scale 1 to 5 where 1=minimum attraction, 3=medium and 5= maximum attraction).

	1	2	3	4	5
Employee	☐	☐	☐	☐	☐
Entrepreneur/self-employed	☐	☐	☐	☐	☐

27. If your preference is to become an entrepreneur, indicate by ticking one box only the period within which you intend to start your business? within 5 years☐, within 10 years☐, much later ☐ not applicable ☐

28. If your choice is to start a business, indicate the major reason (s) for your choice by ticking in the applicable box(es) below

Lack of alternative jobs: I will have to start up a business because there won't be jobs available ☐

Self-achievement: realise my dreams, to create something, to take advantage of my creative needs ☐

Independence: freedom to be my own boss, able to choose my own work tasks and schedules ☐

Financial success: make money based on merit, to keep a large proportion of the result of my efforts ☐

Continue family tradition/role: my family has always run business ☐

SECTION E: ENTREPRENEURSHIP EDUCATION

29. Are you studying or have you studied entrepreneurship in your degree programme/course/module?

☐ NO …….If *NO (You have completed the Questionnaire- Thank you for your help and time)*

☐ YES ……If YES complete section E.

If YES, indicate by ticking one of the following two boxes which is applicable to you and indicate the number of years or modules as required?

I am studying Entrepreneurship as a Degree Programme ☐ number of years……..

I have studied or I am studying entrepreneurship as course/module ☐ number of courses/modules…

Learning from the Module

30. To what extent did the entrepreneurship courses/modules/programme contribute to the following (on a scale between 1 and 5, where 1=not at all, 3=medium and 5= to a very large extent)?

	1	2	3	4	5
Increase your understanding of the attitudes, values and motivation of entrepreneurs (i.e. why do entrepreneurs act?),	☐	☐	☐	☐	☐
Increase your understanding of the actions someone has to take in order to start a business (i.e. what needs to be done?),	☐	☐	☐	☐	☐
Enhance your practical management skills in order to start a business (i.e. how do I start the venture?),	☐	☐	☐	☐	☐
Enhance your ability to develop networks (i.e. who do I need to know)?,	☐	☐	☐	☐	☐
Enhance your ability to identify an opportunity (i.e. when do I need to act?)	☐	☐	☐	☐	☐

Practical approaches

31. To what extent did the entrepreneurship courses/modules/programme involve the following learning approaches? (on a scale between 1 and 5 where 1=not at all, 3=medium and 5= to a very large extent).

	1	2	3	4	5
Hands on projects/assignments undertaken	☐	☐	☐	☐	☐
Business Simulation Games	☐	☐	☐	☐	☐
Identifying opportunities/generating business idea	☐	☐	☐	☐	☐
Developing, presenting and defending a business model	☐	☐	☐	☐	☐
Developing, presenting and defending a business plan	☐	☐	☐	☐	☐
Work placement/Internship with large firm	☐	☐	☐	☐	☐
Work placement/Internship with a small or medium sized business	☐	☐	☐	☐	☐
Actual venture creation/ start-up Business	☐	☐	☐	☐	☐

Access to Resources

32. Indicate to what extent you have used each of the following resources during the course/programme (on a scale between 1 and 5 where 1=not at all, 3=medium and 5 =very extensive utilisation)?

	1	2	3	4	5
A pool of entrepreneurial-minded classmates for building a team	☐	☐	☐	☐	☐
A pool of university technology	☐	☐	☐	☐	☐
Advice from faculty/ Lecturers	☐	☐	☐	☐	☐
Advice from classmates	☐	☐	☐	☐	☐
Advice from technology transfer office/ Business development office	☐	☐	☐	☐	☐
Research resources (library, web, etc.)	☐	☐	☐	☐	☐
Networking events	☐	☐	☐	☐	☐
Physical space for meetings	☐	☐	☐	☐	☐
Business plan competitions (testing ground for the idea)	☐	☐	☐	☐	☐
Seed funding (initial start-up funds) from the university	☐	☐	☐	☐	☐
Referrals to investors and other funding organisations	☐	☐	☐	☐	☐

Thank you very much for your cooperation and time.

Appendix 9.1 - Cross Tabulation of Age Groups by University Type

Private or Public University * Age Group 25, 30,35, above 35 Cross-tabulation							
			Age Group 25, 30,35, above 35				Total
			25 years and below	26 to 30 years	31 -35 years	36 years and above	
Private or Public University	Private	Count	120	36	14	19	189
		% within Private or Public University	63.2%	19.2%	7.4%	10.3%	100.0%
		% within Age Group 25, 30,35, above 35	40.4%	51.4%	63.6%	46.4%	44.0%
		% of Total	27.8%	8.4%	3.2%	4.5%	44.0%
	Public	Count	177	35	8	23	243
		% within Private or Public University	73.1%	14.3%	3.3%	9.3%	100.0%
		% within Age Group 25, 30,35, above 35	59.6%	48.6%	36.4%	53.6%	56.0%
		% of Total	41.0%	8.0%	1.9%	5.2%	56.0%
Total		Count	297	71	22	42	432
		% within Private or Public University	68.8%	16.4%	5.1%	9.7%	100.0%
		% within Age Group 25, 30,35, above 35	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	68.8%	16.4%	5.1%	9.7%	100.0%

Appendix 9.2 - ANOVA Tests on Age Differences in EI and Attitudes

Dependent Variable	Test of Homogeneity of Variances				Between Groups Differences ANOVA Results	
	Levene Statistic	df1	df2	Sig.	F	Sig.
EntrepreneurialIntention	1.549	3	419	0.200	1.015	0.285
Feasibility	1.059	3	414	0.366	5.511	**0.001**
Desirability	2.221	3	418	0.084	0.365	0.678

Note: required assumption of homogeneity of variance between groups for ANOVA to proceed based on the insignificant (p>0.05) Levene's statistic (Pallant, 2010; Burns and Burns, 2008).

Appendix 9.3 - Means and Standard Deviations for Age groups and EI

Variable	Age Group	N	Mean	Std. Deviation
EntrepreneurialIntention	25 years and below	276	4.2750	0.82992
	26 to 30 years	70	4.2009	0.90863
	31 -35 years	27	4.0606	1.18675
	36 years and above	50	4.2560	0.85941
	Total	423	4.2500	0.86736
Feasibility	25 years and below	273	3.4136	0.87928
	26 to 30 years	70	3.6865	0.92819
	31 -35 years	27	3.8000	1.02163
	36 years and above	48	3.5256	0.97977
	Total	418	3.4899	0.91222
Desirability	25 years and below	275	4.2164	0.82668
	26 to 30 years	70	4.2709	0.90936
	31 -35 years	27	4.1773	1.03718
	36 years and above	50	4.1524	0.98051
	Total	422	4.2171	0.86738

Appendix 9.4 - Post-Hoc Tests on EI Differences across Age Groups

Dependent Variable	(I) Age Group	(J) Age Group	Mean Differer (I-J)	Sig.
EntrepreneurialIntention	25 years and below	26 to 30 years	0.0741	0.799
		31 -35 years	0.21444	0.389
		36 years and above	0.01909	0.998
	26 to 30 years	25 years and below	-0.0741	0.799
		31 -35 years	0.14034	0.785
		36 years and above	-0.05501	0.968
	31 -35 years	25 years and below	-0.21444	0.389
		26 to 30 years	-0.14034	0.785
		36 years and above	-0.19535	0.620
	36 years and above	25 years and below	-0.01909	0.998
		26 to 30 years	0.05501	0.968
		31 -35 years	0.19535	0.620
Feasibility	25 years and below	26 to 30 years	**-.27290***	0.007
		31 -35 years	**-.38637***	0.033
		36 years and above	-0.11198	0.721
	26 to 30 years	25 years and below	.27290*	0.007
		31 -35 years	-0.11348	0.887
		36 years and above	0.16092	0.576
	31 -35 years	25 years and below	.38637*	0.033
		26 to 30 years	0.11348	0.887
		36 years and above	0.27439	0.367
	36 years and above	25 years and below	0.11198	0.721
		26 to 30 years	-0.16092	0.576
		31 -35 years	-0.27439	0.367
Desirability	25 years and below	26 to 30 years	-0.05457	0.909
		31 -35 years	0.03908	0.992
		36 years and above	0.06394	0.923
	26 to 30 years	25 years and below	0.05457	0.909
		31 -35 years	0.09365	0.924
		36 years and above	0.11851	0.757
	31 -35 years	25 years and below	-0.03908	0.992
		26 to 30 years	-0.09365	0.924
		36 years and above	0.02486	0.999
	36 years and above	25 years and below	-0.06394	0.923
		26 to 30 years	-0.11851	0.757
		31 -35 years	-0.02486	0.999

* The mean difference is significant at the 0.05 level.

Appendix 9.5 - Post-Hoc Tests for Differences in Employment and Self-Employment Experience Across Age Groups

Dependent Variable	(I) Age Group	(J) Age Group	Mean Differer (I-J)	Sig.
Employment experience Length	25 years and below	26 to 30 years	-1.75645*	0.000
		31 -35 years	-8.14041*	0.000
		36 years and above	-15.73797*	0.000
	26 to 30 years	25 years and below	1.75645*	0.000
		31 -35 years	-6.38396*	0.000
		36 years and above	-13.98152*	0.000
	31 -35 years	25 years and below	8.14041*	0.000
		26 to 30 years	6.38396*	0.000
		36 years and above	-7.59756*	0.000
	36 years and above	25 years and below	15.73797*	0.000
		26 to 30 years	13.98152*	0.000
		31 -35 years	7.59756*	0.000
Self employment Length	25 years and below	26 to 30 years	-.55130*	0.004
		31 -35 years	-2.26288*	0.000
		36 years and above	-1.49460*	0.000
	26 to 30 years	25 years and below	.55130*	0.004
		31 -35 years	-1.71158*	0.000
		36 years and above	-.94329*	0.000
	31 -35 years	25 years and below	2.26288*	0.000
		26 to 30 years	1.71158*	0.000
		36 years and above	0.76828	0.081
	36 years and above	25 years and below	1.49460*	0.000
		26 to 30 years	.94329*	0.000
		31 -35 years	-0.76828	0.081

* The mean difference is significant at the 0.05 level.

Appendix 9.6 - EE Mediating the Influence of Normative Institution on Desirability

Model	Models 1 & 2 Dependent Variable= Desirability	Mediator: Perceived Learning				Mediator: Practical Approaches				Mediator:Access to Resources			
		Model assessments (1)				Model assessments (2)				Model assessments (3)			
	Variables	B(1)	t (1)	Sig. (1)	F (sig), R, R sq, Rsq adj.	B(2)	t (2)	Sig.(2)	F (sig), R, R sq, R sq adj.	B(3)	t (3)	Sig. (3)	F (sig), R, R sq, R sq adj.
1	(Constant)	3.530	23.267	0.000	F=21.754 (p=0.000)	3.530	23.189	0.000	F=21.609(p=0.000)	3.530	23.163	0.000	F=21.560(p=0.000)
	Normative(c)	0.186	4.664	0.000	R=0.215, Rsq=0.046	0.186	4.648	0.000	R=0.215, Rsq=0.046	0.186	4.643	0.000	R=0.215, Rsq=0.046
					Rsq adj=0.044				Rsq adj=0.044				Rsq adj=0.044
2	(Constant)	2.351	10.788	0.000	F=38.017 (p=0.000)	3.267	19.943	0.000	F=18.984(p=0.000)	3.356	18.528	0.000	F=12.392(p=0.000)
	Normative(c')	0.108	2.748	0.006	FΔ (51.813, p=0.000)	0.137	3.317	0.001	FΔ (15.648, p=0.000)	0.163	3.869	0.000	FΔ (3.122, p=0.078)
	Mediator (b)	0.350	7.198	0.000	R=0.381, Rsq=0.145	0.145	3.956	0.000	R=0.281, Rsq=0.079	0.080	1.767	0.078	R=0.230, Rsq=0.053
					Rsq adj=0.142				Rsq adj=0.075				Rsq adj=0.049
3	(Constant)	3.372	24.109	0.000	F=36.787 (p=0.000)	1.815	9.349	0.000	F=44.221(p=0.000)	2.162	13.647	0.000	F=48.044(p=0.000)
	Normative(a)	0.223	6.065	0.000	R=0.275, Rsq=0.076	0.340	6.650	0.000	R=0.301, Rsq=0.090	0.289	6.931	0.000	R=0.312, Rsq=0.098
					Rsq adj=0.074				Rsq adj=0.088				Rsq adj=0.096
	Sobel test (ab)	B1	Z	Sig.		B2	Z	Sig.		B3	Z	Sig.	
	Mediation	0.075	3.761	0.000		0.047	3.067	0.002		0.022	1.541	0.123	
	Type (abc')	0.0084	Complementary			0.007	Complementary			Direct only non-mediation			

Appendix 9.7 - EE Mediating the Influence of Cognitive Institution on Feasibility

Model	Models 1 & 2 Dependent Variable= Feasibility	Mediator: Perceived Learning				Mediator: Practical Approaches				Mediator:Access to Resources			
		Model assessments (1)				Model assessments (2)				Model assessments (3)			
	Variables	B(1)	t (1)	Sig. (1)	F (sig), R, R sq, Rsq adj.	B(2)	t (2)	Sig.(2)	F (sig), R, R sq, R sq adj.	B(3)	t (3)	Sig. (3)	F (sig), R, R sq, R sq adj
1	(Constant)	3.050	26.499	0.000	F=16.827 (p=0.000)	3.050	26.410	0.000	F=16.714(p=0.000)	3.050	26.410	0.000	F=16.714(p=0.000)
	Cognitive(c)	0.173	4.102	0.000	R=0.190, Rsq=0.036	0.173	4.088	0.000	R=0.190, Rsq=0.036	0.173	4.088	0.000	R=0.190, Rsq=0.036
					Rsq adj=0.034				Rsq adj=0.034				Rsq adj=0.034
2	(Constant)	1.451	6.570	0.000	F=44.014 (p=0.000)	2.529	17.600	0.000	F=25.558 (p=0.000)	2.352	13.740	0.000	F=23.416 (p=0.000)
	Cognitive(c')	0.134	3.377	0.001	FΔ (68.655, p=0.000)	0.121	2.887	0.004	FΔ (33.191, p=0.000)	0.141	3.390	0.001	FΔ (29.061, p=0.000)
	Mediator (b)	0.406	8.286	0.000	R=0.406, Rsq=0.165	0.214	5.761	0.000	R=0.322, Rsq=0.103	0.242	5.391	0.000	R=0.309, Rsq=0.096
					Rsq adj=0.161				Rsq adj=0.099				Rsq adj=0.092
3	(Constant)	3.944	38.169	0.000	F=6.553 (p=0.011)	2.441	17.187	0.000	F=22.000 (p=0.000)	2.882	24.410	0.000	F=9.561 (p=0.002)
	Cognitive(a)	0.097	2.560	0.011	R=0.120, Rsq=0.014	0.245	4.690	0.000	R=0.216, Rsq=0.047	0.134	3.092	0.002	R=0.145, Rsq=0.021
					Rsq adj=0.012				Rsq adj=0.046				Rsq adj=0.019
	Sobel test (ab)	B1	Z	Sig.		B2	Z	Sig.		B3	Z	Sig.	
	Mediation	0.041	2.429	0.015		0.054	3.311	0.001		0.034	2.431	0.015	
	Type (abc')	0.01			complementary	0.006			complementary	0.005			complementary

Appendix 9.8 - EE Mediating the Influence of Cognitive Institution on Desirability

Model	Models 1 & 2 Dependent Variable= Desirability	Mediator: Perceived Learning				Mediator: Practical Approaches				Mediator:Access to Resources			
		Model assessments (1)				Model assessments (2)				Model assessments (3)			
	Variables	B(1)	t (1)	Sig. (1)	F (sig), R, R sq, Rsq adj.	B(2)	t (2)	Sig.(2)	F (sig), R, R sq, R sq adj.	B(3)	t (3)	Sig. (3)	F (sig), R, R sq, R sq adj.
1	(Constant)	4.190	37.701	0.000	F=0.047 (p=0.829)	4.190	37.575	0.000	F=0.047(p=0.829)	4.190	37.533	0.000	F=0.046(p=0.829)
	Cognitive(c)	0.009	0.216	0.829	R=0.010, Rsq=0.00	0.009	0.216	0.829	R=0.010, Rsq=0.00	0.009	0.216	0.829	R=0.010, Rsq=0.00
					Rsq adj=-0.002				Rsq adj=-0.002				Rsq adj=-0.002
2	(Constant)	2.649	12.414	0.000	F=34.154 (p=0.000)	3.730	26.723	0.000	F=13.659 (p=0.000)	3.795	22.455	0.000	F=4.796 (p=0.009)
	Cognitive(c')	-0.029	-0.759	0.448	FΔ (68.255, p=0.000)	-0.037	-0.913	0.362	FΔ (27.269, p=0.000)	-0.010	-0.232	0.816	FΔ (9.544, p=0.002)
	Mediator (b)	0.391	8.262	0.000	R=0.363, Rsq=0.132	0.188	5.222	0.000	R=0.240, Rsq=0.058	0.137	3.089	0.002	R=0.145, Rsq=0.021
					Rsq adj=0.128				Rsq adj=0.053				Rsq adj=0.017
3	(Constant)	3.944	38.169	0.000	F=6.553 (p=0.011)	2.441	17.187	0.000	F=22.000 (p=0.000)	2.882	24.410	0.000	F=9.561 (p=0.002)
	Cognitive(a)	0.097	2.560	0.011	R=0.120, Rsq=0.014	0.245	4.690	0.000	R=0.216, Rsq=0.047	0.134	3.092	0.002	R=0.145, Rsq=0.021
					Rsq adj=0.012				Rsq adj=0.045				Rsq adj=0.019
	Sobel test (ab)	B1	Z	Sig.		B2	Z	Sig.		B3	Z	Sig.	
	Mediation	0.039	2.373	0.018		0.047	3.273	0.001		0.019	2.020	0.043	
	Type (abc')	Indirect only				Indirect only				Indirect only			

Appendix 9.9 - EE Mediating the Influence of Regulatory Institution on Feasibility

Model	Models 1 & 2 Dependent Variable= Feasibility	Mediator: Perceived Learning				Mediator: Practical Approaches				Mediator:Access to Resources			
		Model assessments (1)				Model assessments (2)				Model assessments (3)			
	Variables	B(1)	t (1)	Sig. (1)	F (sig), R, R sq, Rsq adj.	B(2)	t (2)	Sig.(2)	F (sig), R, R sq, R sq adj.	B(3)	t (3)	Sig. (3)	F (sig), R, R sq, R sq adj
1	(Constant)	3.204	25.960	0.000	F=6.082 (p=0.014)	3.204	25.873	0.000	F=6.041 (p=0.014)	3.204	25.873	0.000	F=6.041(p=0.014)
	Regulatory (c)	0.117	2.466	0.014	R=0.116, Rsq=0.013	0.117	2.458	0.014	R=0.116, Rsq=0.013	0.117	2.458	0.014	R=0.116, Rsq=0.013
					Rsq adj=0.011				Rsq adj=0.011				Rsq adj=0.011
2	(Constant)	1.549	6.828	0.000	F=39.255 (p=0.000)	2.619	17.212	0.000	F=22.280 (p=0.000)	2.483	14.079	0.000	F=18.756(p=0.000)
	Regulatory(c')	0.080	1.804	0.072	FΔ (71.47, p=0.000)	0.071	1.532	0.126	FΔ (38.014, p=0.000)	0.079	1.687	0.092	FΔ (31.062, p=0.000)
	Mediator (b)	0.417	8.454	0.000	R=0.387, Rsq=0.15	0.228	6.166	0.000	R=0.302, Rsq=0.091	0.253	5.573	0.000	R= 0.279, Rsq=0.078
					Rsq adj=0.146				Rsq adj=0.087				Rsq adj=0.074
3	(Constant)	3.972	36.159	0.000	F=4.442 (p=0.036)	2.567	16.839	0.000	F=11.881 (p=0.001)	2.851	22.773	0.000	F=9.964 (p=0.002)
	Regulatory (a)	0.089	2.108	0.036	R=0.099, Rsq=0.01	0.202	3.447	0.001	R=0.161, Rsq=0.026	0.152	3.157	0.002	R=0.148,Rsq=0.022
					Rsq adj=0.008				Rsq adj=0.024				Rsq adj=0.02
	Sobel test (ab)	B1	Z	Sig.		B2	Z	Sig.		B3	Z	Sig.	
	Mediation	0.037	2.015	0.044		0.046	2.951	0.003		0.038	2.668	0.008	
	Type (abc')				indirect-only				indirect-only				indirect-only

Appendix 9.10 - EE Mediating the Effect of Regulatory Institution on Desirability

Model	Models 1 & 2 Dependent Variable= Desirability	Mediator: Perceived Learning				Mediator: Practical Approaches				Mediator:Access to Resources			
		Model assessments (1)				Model assessments (2)				Model assessments (3)			
	Variables	B(1)	t (1)	Sig. (1)	F (sig), R, R sq, Rsq adj.	B(2)	t (2)	Sig.(2)	F (sig), R, R sq, R sq adj.	B(3)	t (3)	Sig. (3)	F (sig), R, R sq, R sq adj.
1	(Constant)	4.186	35.507	0.000	F=0.056 (p=0.812)	4.186	35.388	0.000	F=0.056 (p=0.813)	4.186	35.349	0.000	F=0.056(p=0.813)
	Regulatory (c)	0.011	0.237	0.812	R=0.011, Rsq=0.00	0.011	0.237	0.813	R=0.011, Rsq=0.00	0.011	0.236	0.813	R=0.011, Rsq=0.0
					Rsq adj=-0.002				Rsq adj=-0.002				Rsq adj=-0.002
2	(Constant)	2.641	12.137	0.000	F=33.929 (p=0.000)	3.712	25.234	0.000	F=13.373 (p=0.000)	3.796	21.988	0.000	F=4.782(p=0.009)
	Regulatory(c')	-0.024	-0.562	0.575	FΔ (67.793, p=0.000)	-0.027	-0.592	0.554	FΔ (26.688, p=0.000)	-0.010	-0.220	0.826	FΔ (9.507, p=0.002)
	Mediator (b)	0.389	8.234	0.000	R=0.363, Rsq=0.132	0.185	5.166	0.000	R=0.238, Rsq=0.057	0.137	3.083	0.002	R= 0.145, Rsq=0.021
					Rsq adj=0.128				Rsq adj=0.052				Rsq adj=0.017
3	(Constant)	3.972	36.159	0.000	F=4.442 (p=0.036)	2.567	16.839	0.000	F=11.881 (p=0.001)	2.851	22.773	0.000	F=9.964 (p=0.002)
	Regulatory (a)	0.089	2.108	0.036	R=0.099, Rsq=0.01	0.202	3.447	0.001	R=0.161, Rsq=0.026	0.152	3.157	0.002	R=0.148,Rsq=0.022
					Rsq adj=0.008				Rsq adj=0.024				Rsq adj=0.02
	Sobel test (ab)	B1	Z	Sig.		B2	Z	Sig.		B3	Z	Sig.	
	Mediation	0.033	2.017	0.044		0.035	2.791	0.005		0.021	2.215	0.027	
	Type (abc')		Indirect only				Indirect only				Indirect only		

Appendix 9.11 - EE Mediating the Effect of Risk Taking Propensity on Feasibility

Model	Models 1 & 2 Dependent Variable= Feasibility	Mediator: Perceived Learning				Mediator: Practical Approaches				Mediator:Access to Resources			
		Model assessments (1)				Model assessments (2)				Model assessments (3)			
	Variables	B(1)	t (1)	Sig. (1)	F (sig), R, R sq, Rsq adj.	B(2)	t (2)	Sig.(2)	F (sig), R, R sq, R sq adj.	B(3)	t (3)	Sig. (3)	F (sig), R, R sq, R sq adj.
1	(Constant)	2.292	12.048	0.000	F=41.594(p=0.000)	2.292	12.008	0.000	F=41.315(p=0.000)	2.292	12.008	0.000	F=41.315(p=0.000)
	RiskTakingPro(c)	0.321	6.449	0.000	R=0.292, Rsq=0.085	0.321	6.428	0.000	R=0.292, Rsq=0.085	0.321	6.428	0.000	R=0.292, Rsq=0.085
					Rsq adj=0.083				Rsq adj=0.083				Rsq adj=0.083
2	(Constant)	1.055	4.331	0.000	F=51.502 (p=0.000)	1.850	9.227	0.000	F=38.016 (p=0.000)	1.816	8.551	0.000	F=32.556(p=0.000)
	RiskTakingPro(c')	0.237	4.923	0.000	FΔ (56.267, p=0.000)	0.273	5.576	0.000	FΔ (31.847, p=0.000)	0.267	5.334	0.000	FΔ (21.857, p=0.000)
	Mediator (b)	0.369	7.501	0.000	R=0.433, Rsq=0.188	0.202	5.643	0.000	R=0.383, Rsq=0.146	0.210	4.675	0.000	R= 0.358, Rsq=0.128
					Rsq adj=0.184				Rsq adj=0.143				Rsq adj=0.124
3	(Constant)	3.347	19.444	0.000	F=25.156 (p=0.000)	2.182	8.951	0.000	F=13.596(p=0.000)	2.268	11.486	0.000	F=24.469(p=0.000)
	RiskTakingPro(a)	0.226	5.016	0.000	R=0.231, Rsq=0.053	0.235	3.687	0.000	R=0.172, Rsq=0.030	0.255	4.947	0.000	R=0.229,Rsq=0.052
					Rsq adj=0.051				Rsq adj=0.027				Rsq adj=0.050
	Sobel test (ab)	B1	Z	Sig.		B1	Z	Sig.		B3	Z	Sig.	
	Mediation	0.078	3.471	0.001		0.046	2.934	0.003		0.053	3.163	0.002	
	Type (abc')	0.020	Complementary mediation			0.013	Complementary mediation			0.01	Complementary mediation		

Appendix 9.12 - EE Mediating the Effect of Risk Taking Propensity on Desirability

Model	Models 1 & 2 Dependent Variable= Desirability	Mediator: Perceived Learning				Mediator: Practical Approaches				Mediator:Access to Resources			
		Model assessments (1)				Model assessments (2)				Model assessments (3)			
	Variables	B(1)	t (1)	Sig. (1)	F (sig), R, R sq, Rsq adj.	B(2)	t (2)	Sig.(2)	F (sig), R, R sq, R sq adj.	B(3)	t (3)	Sig. (3)	F (sig), R, R sq, R sq adj.
1	(Constant)	2.972	16.594	0.000	F=50.239(p=0.000)	2.972	16.538	0.000	F=49.956(p=0.000)	2.972	16.520	0.000	F=49.844(p=0.000)
	RiskTakingPro(c)	0.332	7.092	0.000	R=0.318, Rsq=0.101	0.332	7.068	0.000	R=0.318, Rsq=0.101	0.332	7.060	0.000	R=0.318, Rsq=0.101
					Rsq adj=0.099				Rsq adj=0.099				Rsq adj=0.099
2	(Constant)	1.883	8.141	0.000	F=52.049(p=0.000)	2.659	13.870	0.000	F=34.650(p=0.000)	2.811	13.742	0.000	F=26.384(p=0.000)
	RiskTakingPro(c')	0.259	5.652	0.000	FΔ (48.475, p=0.000)	0.298	6.370	0.000	FΔ (17.492, p=0.000)	0.314	6.509	0.000	FΔ (2.730, p=0.099)
	Mediator (b)	0.325	6.962	0.000	R=0.435, Rsq=0.189	0.144	4.182	0.000	R=0.367, Rsq=0.135	0.071	1.652	0.099	R= 0.326, Rsq=0.106
					Rsq adj=0.185				Rsq adj=0.131				Rsq adj=0.102
3	(Constant)	3.347	19.444	0.000	F=25.156 (p=0.000)	2.182	8.951	0.000	F=13.596(p=0.000)	2.268	11.486	0.000	F=24.469(p=0.000)
	RiskTakingPro(a)	0.226	5.016	0.000	R=0.231, Rsq=0.053	0.235	3.687	0.000	R=0.172, Rsq=0.030	0.255	4.947	0.000	R=0.229,Rsq=0.052
					Rsq adj=0.051				Rsq adj=0.027				Rsq adj=0.050
	Sobel test (ab)	B1	Z	Sig.		B1	Z	Sig.		B3	Z	Sig.	
	Mediation	0.068	3.268	0.001		0.034	2.692	0.007		0.018	1.561	0.118	
	Type (abc')	0.019 Complementary mediation				0.010 Complementary mediation				Direct only non-mediation			

Appendix 9.13 - EE Mediating the Influence of Locus of Control on Feasibility

Model	Models 1 & 2 Dependent Variable= Feasibility	Mediator: Perceived Learning				Mediator: Practical Approaches				Mediator:Access to Resources			
		Model assessments (1)				Model assessments (2)				Model assessments (3)			
	Variables	B(1)	t (1)	Sig. (1)	F (sig), R, R sq, Rsq adj.	B(2)	t (2)	Sig.(2)	F (sig), R, R sq, R sq adj.	B(3)	t (3)	Sig. (3)	F (sig), R, R sq, R sq adj.
1	(Constant)	2.214	9.584	0.000	F=31.468(p=0.000)	2.214	9.552	0.000	F=31.257(p=0.000)	2.214	9.552	0.000	F=31.257(p=0.000)
	LocusOfCont(c)	0.301	5.610	0.000	R=0.256, Rsq=0.066	0.301	5.591	0.000	R=0.256, Rsq=0.066	0.301	5.591	0.000	R=0.256, Rsq=0.066
					Rsq adj=0.064				Rsq adj=0.064				Rsq adj=0.064
2	(Constant)	1.282	4.994	0.000	F=42.046 (p=0.000)	1.767	7.477	0.000	F=33.835 (p=0.000)	1.698	6.849	0.000	F=29.213(p=0.000)
	LocusOfCont(c')	0.156	2.834	0.005	FΔ (49.229, p=0.000)	0.255	4.843	0.000	FΔ (34.084, p=0.000)	0.252	4.717	0.000	FΔ (25.448, p=0.000)
	Mediator (b)	0.369	7.016	0.000	R=0.398, Rsq=0.159	0.210	5.838	0.000	R=0.364, Rsq=0.133	0.225	5.045	0.000	R= 0.341, Rsq=0.117
					Rsq adj=0.155				Rsq adj=0.129				Rsq adj=0.113
3	(Constant)	2.526	12.818	0.000	F=73.701 (p=0.000)	2.124	7.222	0.000	F=10.471(p=0.001)	2.292	9.565	0.000	F=15.540(p=0.000)
	LocusOfCont(a)	0.393	8.585	0.000	R=0.376, Rsq=0.141	0.221	3.236	0.001	R=0.152, Rsq=0.023	0.220	3.942	0.000	R=0.184,Rsq=0.034
					Rsq adj=0.139				Rsq adj=0.021				Rsq adj=0.032
	Sobel test (ab)	B1	Z	Sig.		B1	Z	Sig.		B3	Z	Sig.	
	Mediation	0.141	4.135	0.000		0.044	2.577	0.010		0.051	2.871	0.004	
	Type (abc')	0.023 Complementary mediation				0.012 Complementary mediation				0.01 Complementary mediation			

Appendix 9.14 - EE Mediating the Influence of Locus of Control on Desirability

Model	Models 1 & 2 Dependent Variable= Desirability	Mediator: Perceived Learning				Mediator: Practical Approaches				Mediator:Access to Resources			
		Model assessments (1)				Model assessments (2)				Model assessments (3)			
	Variables	B(1)	t (1)	Sig. (1)	F (sig), R, R sq, Rsq adj.	B(2)	t (2)	Sig.(2)	F (sig), R, R sq, R sq adj.	B(3)	t (3)	Sig. (3)	F (sig), R, R sq, R sq adj.
1	(Constant)	2.930	13.404	0.000	F=35.607(p=0.000)	2.930	13.359	0.000	F=35.369(p=0.000)	2.930	13.344	0.000	F=35.289(p=0.000)
	LocusOfCont(c)	0.303	5.967	0.000	R=0.271, Rsq=0.074	0.303	5.947	0.000	R=0.271, Rsq=0.074	0.303	5.940	0.000	R=0.271, Rsq=0.074
					Rsq adj=0.072				Rsq adj=0.072				Rsq adj=0.072
2	(Constant)	2.113	8.636	0.000	F=40.143 (p=0.000)	2.604	11.467	0.000	F=28.200(p=0.000)	2.719	11.321	0.000	F=20.038(p=0.000)
	LocusOfCont(c')	0.176	3.354	0.001	FΔ (41.463, p=0.000)	0.269	5.329	0.000	FΔ (19.556, p=0.000)	0.283	5.472	0.000	FΔ (4.507, p=0.034)
	Mediator (b)	0.323	6.439	0.000	R=0.390, Rsq=0.152	0.153	4.422	0.000	R=0.336, Rsq=0.113	0.092	2.123	0.034	R= 0.288, Rsq=0.083
					Rsq adj=0.148				Rsq adj=0.109				Rsq adj=0.079
3	(Constant)	2.526	12.818	0.000	F=73.701 (p=0.000)	2.124	7.222	0.000	F=10.471(p=0.001)	2.292	9.565	0.000	F=15.540(p=0.000)
	LocusOfCont(a)	0.393	8.585	0.000	R=0.376, Rsq=0.141	0.221	3.236	0.001	R=0.152, Rsq=0.023	0.220	3.942	0.000	R=0.184,Rsq=0.034
					Rsq adj=0.139				Rsq adj=0.021				Rsq adj=0.032
	Sobel test (ab)	B1	Z	Sig.		B1	Z	Sig.		B3	Z	Sig.	
	Mediation	0.120	3.846	0.000		0.032	2.475	0.013		0.021	1.985	0.049	
	Type (abc')	0.022 Complementary mediation				0.009 Complementary mediation				0.01 Complementary mediation			

Appendix 9.15 - EE Mediating the Effect of Need for Achievement on Feasibility

Model	Models 1 & 2 Dependent Variable= Feasibility	Mediator: Perceived Learning				Mediator: Practical Approaches				Mediator:Access to Resources			
		Model assessments (1)				Model assessments (2)				Model assessments (3)			
	Variables	B(1)	t (1)	Sig. (1)	F (sig), R, R sq, Rsq adj.	B(2)	t (2)	Sig.(2)	F (sig), R, R sq, R sq adj.	B(3)	t (3)	Sig. (3)	F (sig), R, R sq, R sq adj.
1	(Constant)	2.446	11.106	0.000	F=23.319(p=0.000)	2.446	11.081	0.000	F=23.214(p=0.000)	2.446	11.056	0.000	F=23.109(p=0.000)
	AchievementN(c)	0.246	4.829	0.000	R=0.223, Rsq=0.050	0.246	4.818	0.000	R=0.223, Rsq=0.050	0.246	4.807	0.000	R=0.223, Rsq=0.050
					Rsq adj=0.048				Rsq adj=0.048				Rsq adj=0.048
2	(Constant)	1.423	5.666	0.000	F=39.657 (p=0.000)	1.995	8.813	0.000	F=29.595 (p=0.000)	1.913	7.993	0.000	F=25.194(p=0.000)
	AchievementN(c')	0.106	2.056	0.040	FΔ (53.256, p=0.000)	0.198	3.975	0.000	FΔ (34.235, p=0.000)	0.196	3.874	0.000	FΔ (25.969, p=0.000)
	Mediator (b)	0.385	7.298	0.000	R=0.389, Rsq=0.152	0.213	5.851	0.000	R=0.344, Rsq=0.118	0.231	5.096	0.000	R= 0.321, Rsq=0.103
					Rsq adj=0.148				Rsq adj=0.114				Rsq adj=0.099
3	(Constant)	2.655	14.195	0.000	F=69.933 (p=0.000)	2.113	7.616	0.000	F=12.102 (p=0.001)	2.311	10.207	0.000	F=16.790(p=0.000)
	AchievementN(a)	0.361	8.363	0.000	R=0.369, Rsq=0.136	0.223	3.479	0.001	R=0.163, Rsq=0.027	0.214	4.098	0.000	R=0.192,Rsq=0.037
					Rsq adj=0.134				Rsq adj=0.024				Rsq adj=0.034
	Sobel test (ab)	B1	Z	Sig.		B1	Z	Sig.		B3	Z	Sig.	
	Mediation	0.123	3.980	0.000		0.045	2.783	0.005		0.049	2.929	0.003	
	Type (abc')	0.015	Complementary mediation			0.009	Complementary mediation			0.01	Complementary mediation		

Appendix 9.16 - EE Mediating the Effect of Need for Achievement on Desirability

Model	Models 1 & 2 Dependent Variable= Desirability	Mediator: Perceived Learning				Mediator: Practical Approaches				Mediator:Access to Resources			
		Model assessments (1)				Model assessments (2)				Model assessments (3)			
	Variables	B(1)	t (1)	Sig. (1)	F (sig), R, R sq, Rsq adj.	B(2)	t (2)	Sig.(2)	F (sig), R, R sq, R sq adj.	B(3)	t (3)	Sig. (3)	F (sig), R, R sq, R sq adj.
1	(Constant)	2.914	14.182	0.000	F=41.430(p=0.000)	2.914	14.151	0.000	F=41.244(p=0.000)	2.914	14.119	0.000	F=41.058(p=0.000)
	AchievementN(c)	0.306	6.437	0.000	R=0.292, Rsq=0.085	0.306	6.422	0.000	R=0.292, Rsq=0.085	0.306	6.408	0.000	R=0.292, Rsq=0.085
					Rsq adj=0.083				Rsq adj=0.083				Rsq adj=0.083
2	(Constant)	2.080	8.754	0.000	F=42.286 (p=0.000)	2.600	12.104	0.000	F=30.666 (p=0.000)	2.715	11.868	0.000	F=22.661(p=0.000)
	AchievementN(c')	0.192	3.920	0.000	FΔ (39.552, p=0.000)	0.272	5.759	0.000	FΔ (18.462, p=0.000)	0.287	5.928	0.000	FΔ (3.986, p=0.046)
	Mediator (b)	0.314	6.289	0.000	R=0.400, Rsq=0.160	0.149	4.297	0.000	R=0.349, Rsq=0.122	0.086	1.997	0.046	R= 0.306, Rsq=0.093
					Rsq adj=0.156				Rsq adj=0.118				Rsq adj=0.089
3	(Constant)	2.655	14.195	0.000	F=69.933 (p=0.000)	2.113	7.616	0.000	F=12.102 (p=0.001)	2.311	10.207	0.000	F=16.790(p=0.000)
	AchievementN(a)	0.361	8.363	0.000	R=0.369, Rsq=0.136	0.223	3.479	0.001	R=0.163, Rsq=0.027	0.214	4.098	0.000	R=0.192,Rsq=0.037
					Rsq adj=0.134				Rsq adj=0.024				Rsq adj=0.034
	Sobel test (ab)	B1	Z	Sig.		B1	Z	Sig.		B3	Z	Sig.	
	Mediation	0.103	3.748	0.000		0.032	2.634	0.008		0.017	1.996	0.047	
	Type (abc')	0.022	Complementary mediation			0.009	Complementary mediation			0.01	Complementary mediation		

Appendix 9.17 - EE Mediating the Effect of Prior Entrepreneurial Exposure on Feasibility

Model	Models 1 & 2 Dependent Variable= Feasibility	Mediator: Perceived Learning				Mediator: Practical Approaches				Mediator:Access to Resources			
		Model assessments (1)				Model assessments (2)				Model assessments (3)			
	Variables	B(1)	t (1)	Sig. (1)	F (sig), R, R sq, Rsq adj.	B(2)	t (2)	Sig.(2)	F (sig), R, R sq, R sq adj.	B(3)	t (3)	Sig. (3)	F (sig), R, R sq, R sq adj.
1	(Constant)	2.876	25.579	0.000	F=34.427(p=0.000)	2.876	25.493	0.000	F=34.196(p=0.000)	2.876	25.493	0.000	F=34.196(p=0.000)
	PriorEntExp(c)	0.404	5.867	0.000	R=0.267, Rsq=0.072	0.404	5.848	0.000	R=0.267, Rsq=0.072	0.404	5.848	0.000	R=0.267, Rsq=0.072
					Rsq adj=0.069				Rsq adj=0.069				Rsq adj=0.069
2	(Constant)	1.353	6.269	0.000	F=52.324 (p=0.000)	2.263	15.378	0.000	F=37.553 (p=0.000)	2.151	12.592	0.000	F=33.469(p=0.000)
	PriorEntExp(c')	0.329	5.064	0.000	FΔ (65.271, p=0.000)	0.367	5.500	0.000	FΔ (38.055, p=0.000)	0.369	5.491	0.000	FΔ (30.472, p=0.000)
	Mediator (b)	0.391	8.079	0.000	R=0.436, Rsq=0.190	0.219	6.169	0.000	R=0.381, Rsq=0.145	0.242	5.520	0.000	R= 0.362, Rsq=0.131
					Rsq adj=0.186				Rsq adj=0.141				Rsq adj=0.127
3	(Constant)	3.900	38.119	0.000	F=9.312 (p=0.002)	2.801	19.449	0.000	F=3.755 (p=0.050)	3.001	25.444	0.000	F=4.026 (p=0.045)
	PriorEntExp(a)	0.191	3.052	0.002	R=0.142, Rsq=0.020	0.171	1.938	0.050	R=0.091, Rsq=0.008	0.145	2.007	0.045	R=0.094,Rsq=0.009
					Rsq adj=0.018				Rsq adj=0.006				Rsq adj=0.007
	Sobel test (ab)	B1	Z	Sig.		B1	Z	Sig.		B3	Z	Sig.	
	Mediation	0.073	2.877	0.004		0.036	1.998	0.049		0.034	1.988	0.047	
	Type (abc')	0.025	Complementary mediation			0.014	Complementary mediation			0.01	Complementary mediation		

Appendix 9.18 - EE Mediating the Effect of Prior Entrepreneurial Exposure on Desirability

Model	Models 1 & 2 Dependent Variable= Desirability	Mediator: Perceived Learning				Mediator: Practical Approaches				Mediator:Access to Resources			
		Model assessments (1)				Model assessments (2)				Model assessments (3)			
	Variables	B(1)	t (1)	Sig. (1)	F (sig), R, R sq, Rsq adj.	B(2)	t (2)	Sig.(2)	F (sig), R, R sq, R sq adj.	B(3)	t (3)	Sig. (3)	F (sig), R, R sq, R sq adj.
1	(Constant)	3.919	35.757	0.000	F=8.287(p=0.004)	3.919	35.638	0.000	F=8.231(p=0.004)	3.919	35.598	0.000	F=8.213(p=0.004)
	PriorEntExp(c)	0.193	2.879	0.004	R=0.134, Rsq=0.018	0.193	2.869	0.004	R=0.134, Rsq=0.018	0.193	2.866	0.004	R=0.134, Rsq=0.018
					Rsq adj=0.016				Rsq adj=0.016				Rsq adj=0.016
2	(Constant)	2.462	11.667	0.000	F=35.933 (p=0.000)	3.434	23.597	0.000	F=16.479 (p=0.000)	3.545	20.754	0.000	F=8.238(p=0.000)
	PriorEntExp(c')	0.122	1.915	0.056	FΔ (62.447, p=0.000)	0.164	2.482	0.013	FΔ (24.299, p=0.000)	0.175	2.607	0.009	FΔ (8.132, p=0.005)
	Mediator (b)	0.374	7.902	0.000	R=0.371, Rsq=0.138	0.173	4.929	0.000	R=0.262, Rsq=0.069	0.125	2.852	0.005	R= 0.189, Rsq=0.036
					Rsq adj=0.134				Rsq adj=0.065				Rsq adj=0.031
3	(Constant)	3.900	38.119	0.000	F=9.312 (p=0.002)	2.801	19.449	0.000	F=3.755 (p=0.050)	3.001	25.444	0.000	F=4.026 (p=0.045)
	PriorEntExp(a)	0.191	3.052	0.002	R=0.142, Rsq=0.020	0.171	1.938	0.050	R=0.091, Rsq=0.008	0.145	2.007	0.045	R=0.094,Rsq=0.009
					Rsq adj=0.018				Rsq adj=0.006				Rsq adj=0.007
	Sobel test (ab)	B1	Z	Sig.		B1	Z	Sig.		B3	Z	Sig.	
	Mediation	0.068	2.814	0.005		0.028	1.998	0.048		0.018	1.992	0.046	
	Type (abc')	Indirect only mediation				0.005 complementary mediation				0.003 Complementary mediation			

Appendix 9.19 - GEM Data on EI and Gain on EI from EE

Sample Results Reflect % of 18-64 year old Responses	Perceived Opportunities		Perceived Capabilities		Fear of Failure		Enpreneurship as a good career choice		High Status to successful entrepreneurs		Media Attention to Entrepreneurship		Entrepreneurial Intention (EI)		EI training Gain Ratio(GEM special EE Report)
	2010	2012	2010	2012	2010	2012	2010	2012	2010	2012	2010	2012	2010	2012	2010
Factor Driven economies															
Zambia (N=2039, N=2157)	81	78	78	84	13	17	70	67	72	79	73	72	67	55	
Ghana(N=2447,N=2222)	76	79	75	86	10	18	91	84	91	91	79	82	69	60	
Group Average(unweighted)	**62**	**63**	**72**	**71**	**29**	**28**	**75**	**76**	**81**	**80**	**65**	**68**	**43**	**48**	**2.2**
Efficiency Driven Economies															
South Africa (N=3279,N=2928)	41	35	44	39	29	31	78	74	78	74	79	73	17	12	
China (N=3677,N=3684)	36	32	42	38	32	36	70	72	77	76	77	80	27	20	
Group Average(unweighted)	**43**	**41**	**56**	**52**	**32**	**32**	**73**	**70**	**70**	**69**	**63**	**60**	**23**	**26**	**1.9**
Innovation Driven Economies															
United Kingdom(N=3000,N=2000)	29	33	52	47	30	36	51	50	77	77	52	47	5	10	
United States(N=4000,N=5542)	35	43	60	56	27	32	65	0	76	0	68	0	8	13	
Netherlands(N=3502,N=3501)	45	34	46	42	24	30	85	79	69	65	61	58	6	9	
Group Average(unweighted)	**33**	**31**	**44**	**36**	**33**	**39**	**59**	**53**	**70**	**68**	**56**	**56**	**8**	**10**	**1.9**

Compiled from: (Kelley et al., 2011; Kelley et al., 2012; Martínez et al., 2010)

Appendix 9.20 - GEM & World Bank Data on Entrepreneurship and Ease of Doing Business Rank

Sample Results Reflect % of 18-64 year olds' Responses	Nascent Ent.ship Rate		New Business ownership Rate (≤3.5 yrs)		Early-stage Ent.Ship Activity (TEA)		Established Business Ownership Rate (>3.5yrs)		Discontinued businesses		Necessity Driven(% of TEA)		Improvement Driven Opportunity (% of TEA)		Doing Business Global Ranking (out of 183 countries)*		%trained nascent & new business entrepreneurs	% of trained individuals in the population	TEA training Gain index
	2010	2012	2010	2012	2010	2012	2010	2012	2010	2012	2010	2012	2010	2012	2010	2012	2010 special	Report on EE & Training	
Factor Driven economies																			
Zambia (N=2039, N=2157)	17	27	17	15	33	41	10	4	24	20	32	32	41	46	76	94			
Ghana(N=2447,N=2222)	11	15	25	23	34	37	36	38	26	16	37	28	35	51	67	64			
Average(unweighted)	**12**	**12**	**12**	**13**	**23**	**24**	**13**	**11**	**13**	**13**	**34**	**35**	**38**	**42**			**32**	**21.2**	**1.5**
Efficiency Driven Economies																			
South Africa (N=3279,N=2928)	5	4	4	3	9	7	2	2	5	5	36	32	31	40	34	39			
China (N=3677,N=3684)	5	5	10	7	14	13	14	12	6	4	42	37	34	39	79	91			
Average(unweighted)	**7**	**8**	**5**	**6**	**12**	**13**	**8**	**8**	**4**	**5**	**31**	**28**	**42**	**46**			**33.6**	**19.8**	**1.8**
Innovation Driven Economies																			
United Kingdom(N=3000,N=2000)	3	5	3	4	6	9	6	6	2	2	11	18	43	43	4	7			
United States(N=4000,N=5542)	5	9	3	4	8	13	8	9	4	4	28	21	51	59	5	4			
Netherlands(N=3502,N=3501)	4	4	3	6	7	10	9	9	1	2	8	8	64	66	30	31			
Average(unweighted)	**3**	**4**	**3**	**3**	**6**	**7**	**7**	**7**	**2**	**3**	**20**	**18**	**54**	**51**			**40.9**	**23.4**	**2.1**

* easy of starting a business, paying taxes, trading across borders, registering property, dealing with construction permits, getting credit, closing a business, enforcing contracts & protecting investors

Compiled from: (Business, 2010; Kelley et al., 2011; Kelley et al., 2012; Martínez et al., 2010; World Bank, 2012)

Appendix 10.1 - List of Empirical Studies Reviewed on Determinants of EI and Outcomes

	Key Empirical Studies Pertinent to Entrepreneurship Education, Institutions and Personality's Effects on Intention and Outcomes: 2002-2014				
#	**Authors**	**Approach**	**Focus of Study**	**Analysed Sample**	**Findings**
1	Altinay et al., 2012	Quantitative cross-sectional	The influence of family tradition and psychological traits on entrepreneurial intention (EI)	205 university students In hospitality and tourism studies in UK	Family tradition in entrepreneurship and innovativeness positively influence EI. However, risk taking propensity, tolerance for ambiguity, and locus of control have no significant influence on EI.
2	Aouni and Pirnay, 2009	Longitudinal quantitative	Workshops and conference based presentations from successful entrepreneurs (role models) aimed at young people (including college and university students)	668 youths in Belgium	Those with initial low interest in entrepreneurship reported positive change on ambition (intention). However, no impact on feasibility to start a business. Those with initial high interest in entrepreneurship reported negative change in ambition and no impact on feasibility of business start-up.
3	Bae et al., 2014	Meta-analyses quantitative	The relationship between entrepreneurship education (EE) and entrepreneurial intention (EI).	73 studies with a total sample size of 37285.	Significant but small correlation between EE and EI (r=0.143). This correlation was greater than that of general business education and EI. However, controlling for pre-education EI, the relationship between EE and post-education EI was not significant. Future studies can extend knowledge of effects of EE on EI by investigating mediation effects. In addition, future studies could consider selection bias influences.
4	Barakat et al., 2010	Longitudinal quantitative	Perceived feasibility before and after short (4 days) intensive EE programme for post-graduates with mean age 28.9 with no or little prior entrepreneurial exposure	192 University of Cambridge pre-course and post-course questionnaire and 6 months follow-up questionnaire	After programme, students showed higher perception of feasibility and the positive effect was sustained 6 months after the programme. Natural science students scored higher than social science students. Men scored higher than women. British students scored higher than overseas students.
5	BarNir et al., 2011	Quantitative cross-sectional	Effects of role models and self-efficacy on forming career intentions and whether the effects vary by gender	393 undergraduate students (180 men, 213 women) at a public university in USA comprising freshmen, seniors and graduate students in core business course with 25% respondents from other fields.	A moderated mediation relationship such that for women role models had stronger influence on self-efficacy which in turn influenced entrepreneurial career intentions

#	Authors	Approach	Focus of Study	Analysed Sample	Findings
6	Birdthistle, 2008	Quantitative cross-sectional	Survey of intentions, personality factors using the big five factor model of personality traits plus locus of control, background factors and obstacles to nascence	248 students from 5 universities in Ireland	Personality traits and perceptions of obstacles (complicated legal processes, economic down-turn, lack of debt capital and lack of entrepreneurial skills) influenced intentions.
7	Bowen and De Clercq, 2007	Quantitative-secondary data	Assessing institutional context's influence on the allocation of entrepreneurial effort in a country.	40 countries' macro-economic data from 2002 -2004.	Increased financial capital and educational capital targeted at entrepreneurship and reduced corruption among a country's economic actors increases entrepreneurial activity including high growth entrepreneurial activity.
8	Byabashaija and Katono, 2011	Intention before and after the module but with no control group	The impact of university entrepreneurship education on the intention to start a business in Uganda	167 undergraduate students in Uganda. Analyses included tests of significance of changes in the attitudes and intentions of students after the entrepreneurship compulsory module, the mediating role of attitudes and moderating role of employment expectations.	The results show a statistically insignificant decrease in intention and small but significant changes in attitudes (feasibility, desirability and entrepreneurial self-efficacy) and a significant mediating role of feasibility and desirability (these attitudes also mediated subjective norms) but a non-significant moderating role of employment expectations.
9	Carr and Sequeira, 2007	Quantitative cross-sectional	Direct and indirect effect of prior family business exposure on intention and attitudes	308 respondents comprising nascent entrepreneurs, employees, unemployed and a few students in the USA.	Significant direct and indirect effect of prior family business exposure on EI through attitudes.

#	Authors	Approach	Focus of Study	Analysed Sample	Findings
10	Collins et al., 2004	Quantitative cross-sectional	Assessing factors affecting entrepreneurial intentions (EI) for first year students	1194 fresher undergraduate students in three universities in Leicestershire, UK	Students enter university with some level of EI. Influences include family role models and prior experiences. They expect to start own businesses after gaining experience within 10 years after graduation.
11	Davey et al., 2011	Quantitative cross-sectional	Identify the differences between African and European students with regard to their entrepreneurial intentions (EI), attitudes towards entrepreneurship, role models and entrepreneurial experience	1055 first year university students from one university in Germany, Finland, Ireland, Portugal, South Africa, Uganda and Kenya	Students from developing/emerging economies in Africa have higher EI than their industrialised European counterparts. Motivations for choice of career were similar.
12	De Clercq et al., 2011	Quantitative	Influence of individual level resources (financial, human and social capital) on new business activity and the cross-level moderating effect of formal institutions (financial and education systems) and informal institutions (trust and cultural values of hierarchy and conservatism)	181,450 observations from 32 developed economies (including UK) and emerging economies (including South Africa) based on 2003 to 2007 GEM data on nascent entrepreneurship, financial, human and social capital, GEM national experts assessment of formal institutions, the world values survey (WVS) and Schwartz's cultural value framework	Financial, human and social capital increases new business activity (preparing to start or started but less than 42 months in business). Entrepreneurs with abundant financial resources are not affected by institutional context when starting. However, in countries with financial and education system less oriented to new business creation, the possession of skills, knowledge and experience (human capital) as well as direct exposure to entrepreneurial role models (social capital) become less instrumental for the prevalence of new business activity.

#	Authors	Approach	Focus of Study	Analysed Sample	Findings
13	do Paco et al., 2013	Quantitative cross-sectional	Entrepreneurial intentions (EI): is education enough? This study seeks to compare the psychological attributes and behaviours associated with entrepreneurship, as well as EI among girls attending a business school and boys attending a sports school.	232 students in Portugal	It was expected that the scores recorded for EI would be higher at the girls' business school, where entrepreneurship education (EE) is deeply incorporated into the curriculum, but the results showed that, despite their not receiving any kind of EE, the boys at the neighbouring sports school tended to have higher EI, which suggests that there are other factors influencing EI.
14	Dohse and Walter, 2012	Quantitative cross-sectional	The role of the individual and regional knowledge context in formation of entrepreneurial intention	1816 male students in computer science, electrical engineering and business in Germany universities	At individual level, role models facilitating transfer of tacit knowledge and the expectation that strong ties will provide know-who and know-how positively impact intention. Need for achievement, risk taking propensity, need for independence, opportunity perception also significantly influence EI. At regional level, high regional start-up rate in knowledge-based industries and high growth rate of regional knowledge influence intention. Unemployment level among highly qualified had no significant influence.
15	Engle et al., 2011	Quantitative cross-sectional	Institutions and entrepreneurial intent (EI): a cross country study	477 university business students from Russia, USA and Germany	Minor support for influence of formal institutions on EI based on World Bank's Doing Business ranking. Greater impact on EI from informal institutions of need, social norms and parental experience.
16	Ertuna and Gurel, 2011	Quantitative cross-sectional	Moderating role of number of years in university education on relationship between traits, background and intentions	917 first year and final year business and engineering students from five universities in Turkey.	Risk taking propensity (not innovativeness or locus of control) interacts with number of years in university (education) to increase odds of stating intention.

#	Authors	Approach	Focus of Study	Analysed Sample	Findings
17	Fairlie and Holleran, 2011	Quantitative longitudinal 2003-2005	Influence of entrepreneurial personality traits on benefits from entrepreneurship training measured through rate of business ownership	Used survey results from the Department of Labour for Growing America Through Enterprise (GATE) project that enrolled people for free training and coaching in business creation and management. Survey was done at three intervals, wave 1 (6 months, 2597 sample), wave 2 (18 months, 2265 sample) and wave 3 (60 months, 1821 sample)	Individuals with risk tolerance had higher benefit from entrepreneurship training because they had higher business creation and ownership rate. Inconclusive results for innovativeness and autonomy.
18	Falck et al., 2012	Quantitative	Identity and entrepreneurship: do school peers shape entrepreneurial intentions (EI)?	The study was based on Programme for International Student Assessment (PISA) 2006 data with a restricted sample of 52,783 for final year students in secondary school reporting EI at the age of 15 for OECD countries. The study also uses data from the longitudinal British Cohort Study (BCS) since 1970.	Based on the BCS, individuals who at age 16 expressed EI were more likely to become entrepreneurs by age 34. Based on PISA data, having an entrepreneurial peer group (school peers with at least one parent who is an entrepreneur) and having entrepreneur parents has a positive effect on EI. Thus, entrepreneurial identity results from an individual's socialisation. The strength of peer effect in a country is moderated by prevailing values of individualism/collectivism.

#	Authors	Approach	Focus of Study	Analysed Sample	Findings
19	Fayolle and Gailly, 2009	Quantitative longitudinal	Assessing the impact of entrepreneurship education programmes (EEP): a new methodology and three experiments from French engineering schools	Engineering students from three universities in France, Grenoble (20 students, one day programme), Limoges EEP (43 students, seven months programme) and Lyon EEP (144 students, three days programme)	Students with previous exposure in entrepreneurship (closer role models or prior actual experience) showed little change while those without showed significant change in intentions after the programme. Those in a longer EEP also showed higher intentions.
20	Fitzsimmons and Douglas, 2011	Quantitative cross-sectional	Interaction between feasibility and desirability in the formation of entrepreneurial intention (EI)	414 MBA students answered a questionnaire at the start of an entrepreneurship module in Australia (46), China (39), India (204) and Thailand (125)	EI was very high or sufficiently high with the following combinations of feasibility and desirability: a) high/high (natural entrepreneur-very high EI), b) high/low (accidental entrepreneur-sufficiently high EI), c) low/high (inevitable entrepreneur-sufficiently high EI), and d) low/low (non-entrepreneurs, low EI)
21	Frank et al., 2007	Quantitative longitudinal	The significance of personality (need for achievement, risk taking propensity, locus of control) in business start-up intentions, start-up realisation and business success	417 (18 year olds), 777 (university students), 314 (business founders), and 1169 (successful entrepreneurs) over three years in Austria.	Personality traits are significant at intentions stage but reduce during nascence and finally become negligible for success (survival/growth) as environment/resources (human, social and financial capital) and process (managerial skills) gain significance.
22	Fretschner and Weber, 2013	Quantitative longitudinal	Impact of entrepreneurship awareness education-assessment based on theory of planned behaviour	75 (pre-test) and 62 (post-test) business students in the University of Munich, Germany	Attitude to entrepreneurship significantly impacts EI in both pre-test and post-test assessment. However, in an awareness setting, perceived behavioural control does not significantly impact EI in the post-EE assessment.

#	Authors	Approach	Focus of Study	Analysed Sample	Findings
23	Galloway et al., 2005	Quantitative cross-sectional	Attitude to entrepreneurship and perception of the economic environment by university students	451 students who just completed an entrepreneurship module in 2003 in 4 Scottish universities, Herriot-Watt University, Napier University, University of Strathclyde and University of Paisley	Most students in the short term expect to work in new and small firms and that skills developed by entrepreneurship education are applicable to both wage employment and entrepreneurship. In the long term, 5-10 years, students expect to start and run their own businesses.
24	Gaspar, 2009	Quantitative	Effect on venture creation decision and performance of support from venture capitalists (VCs) and business incubation centres (BICs)	119 start-ups, 15 VCs, 18 BICs in Portugal	Support from VCs and BICs positively influence decision to create new business, reduced start-up mortality rate and improved performance. Human capital (individual's knowledge and experience) and internal locus of control also have positive influence.
25	Gasse and Tremblay, 2011	Quantitative cross-sectional	Compare the intentions and nascence of university students in cross-cultural and socio-economic contexts	2053 mostly undergraduate students: Canada 341, Tunisia 209, France 312, Romania 410, UK 239, Colombia 102 and Germany 440.	Perception of feasibility and desirability as well as personality traits predict intentions across countries. Nascence was also found to be high among less developed countries.
26	Giacomin et al., 2011	Quantitative cross-sectional	Differences in entrepreneurial intentions between countries and perceived barriers and motivations	2093 students from five universities in five countries (India, China, Spain, Belgium, USA)	Intentions differ between countries but students are motivated and or/discouraged by similar variables. However, the levels of sensitivity to each motivator or barrier differ by country.

#	Authors	Approach	Focus of Study	Analysed Sample	Findings
27	Gibcus et al., 2012 for the European Commission	Quantitative cross-sectional	Effects and impact of EE on entrepreneurial attitudes, skills, intention, actual start-up and employability for higher education alumni	1139 EE alumni and 1443 control group from 9 universities in 9 European countries i.e. UK, Sweden, Finland, Netherlands, Spain, Germany, Croatia, Austria and Ireland	EE has positive effect on entrepreneurial attitudes (initiative, self-efficacy, risk taking propensity, achievement need and structural behaviour), skills (adaptability, creativity, analysis, networking, motivation) and knowledge (role and mechanics of entrepreneurship and entrepreneurs) but not self-efficacy when EE group is compared to control group. EE group had higher EI and preference for self-employment. Independence, realising business opportunity, freedom of choice of time/place of work are motivations for both groups though the EE group more often (68% vs 61%) mentioned realising a business opportunity (pull factors) and less often mentioned lack of attractive job opportunities and avoiding uncertainty of being an employee than the control group (push factors). Among those with preference for organisational employment, control group scores higher than EE group on security, stability motivations such as regular fixed income, social security protection, avoiding dealing with red-tape and problems with authorities. Males have higher EI than females. Preference for self-employment decreases with age. EE group generally found employment sooner after graduation (78% vs 59%). EE group earned more money and were more creative in their current job. EE group had higher proportions for those who became self-employed (16% vs 10%), entrepreneurs (8% to 3%), liberal professions and freelancers (8% vs 7%). EE group started a business within 0.7 years after graduation while control group started 2.8 years later. EE group had higher actual innovation and turnover as well as more ambitious growth forecasts for their businesses than the control group. Among entrepreneurs, over a period of 10 years, the EE group had more serial entrepreneurs.

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28	Guerrero et al., 2008	Quantitative cross-sectional	The influence of desirability and feasibility on entrepreneurial intentions	719 university students (from 2nd to 5th Year) in two universities in Spain. 279 in entrepreneurship related majors and the rest as controls in various disciplines.	Perception of desirability and feasibility on intention was not significant when tested with all university students even for those with entrepreneurship education (EE). Significant only with respective sub samples. Demographic variables of role models and prior experience as well as EE had a positive influence on attitudes but not on feasibility.
29	Gurel et al., 2010	Quantitative cross-sectional	Moderating role of number of years in university education on relationship between traits, background and intentions	First year and final year tourism students: UK (206) and Turkey (203)	No moderating effect for UK and Turkey samples (innovativeness and risk taking propensity on their own were associated with intentions)
30	Haase et al., 2011	Quantitative cross-sectional	Differences in entrepreneurial intentions between developing and developed countries	2353 students from one university in Namibia and two universities in Germany	Developing country respondents have higher intentions and more self-employed friends and relatives.
31	Henley, 2007	Quantitative longitudinal	Entrepreneurial aspiration and transition into self-employment- evidence from UK	Used the British Household Panel Survey (BHPS) data from 1998 to 2002 with a sample of 13751	Successful transition from intentions to actual entrepreneurship is more likely if intentions are well formed in advance. Time span between intentions and actual entrepreneurship is subject to wide variations (from months to years). The highly educated and younger are more likely to aspire to start a new venture. The younger may aspire to start but lack resources, skills and experience. Gender, ethnicity, prior work and/or entrepreneurial experience, education and family self-employment background also explain transition to actual self-employment.

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32	Henry et al., 2004	Qualitative longitudinal	Quantitative and qualitative impact of training in new business creation over three years in Ireland	35 participants on a part-time training scheme with either a Diploma or degree with business idea; control group with 48 aspiring entrepreneurs with a business idea not on the training programme due to limited places; 38 comparator group on a different 6 months training programme facing imminent redundancy.	Training increased perception of entrepreneurial capability, access to support networks, and the treatment group had more self-employed people and generated more businesses and new jobs.
33	Kautonen et al., 2013	Quantitative longitudinal 2011-2012	Robustness of the theory of planned behaviour in predicting entrepreneurial intention and actions	969 adults in Austria and Finland (wave 1) with a decline from 58% to 8% (Austria) and 73% to 23 % (Finland) in terms of response rate in Wave 2.	Subjective norms, attitudes and perceived behavioural control (PBC) explain 59% variation in intention. Intention and PBC explain 31% of subsequent behaviour.
34	lakovleva et al., 2011	Quantitative cross-sectional	Differences in applicability of the theory of planned behaviour (TPB) in entrepreneurial intention (EI) between efficiency-driven and innovation-driven economies	2225 students from 8 developed countries (Australia, France, Canada, Czech Republic, Norway, Spain, Germany, and Netherlands) and 5 developing countries (Mexico, Brazil, Romania, Russia and Ukraine)	Respondents from efficiency-driven economies have higher EI than those from innovation-driven economies because of higher attitudes, social norms and perceived behavioural control. The TPB is fully replicable in efficiency-driven and innovation-driven economies.

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35	Kristiansen and Indarti, 2004	Quantitative cross-sectional	Assessing factors affecting entrepreneurial intentions in different economic and cultural contexts	University students in Indonesia (130) and Norway (121)	The developing country had higher intentions due to higher need for achievement, self-efficacy and positive evaluation of access to capital, social networks and information about how to start a business. It is easier to start a business in the informal sector. In a developed country with low unemployment rate, most of the entrepreneurial and innovative processes take place in large organisations and individual business start-up has low social status.
36	Levenburg et al., 2006	Quantitative cross-sectional	Interdisciplinary dimension of entrepreneurial intentions	728 students at one university in USA (Grand Valley State University)	No difference between majors in intentions. However, desire for entrepreneurship education is more in non-business students.
37	Lim et al., 2010	Quantitative	Institutional elements' effects on venture creation decision (VCD) mediated by entrepreneurial cognition/expert scripts	757 entrepreneurs and non-entrepreneurs from USA, Canada, UK, Australia, Germany, France, Italy and Japan as well as World Bank database on financial structure and development.	Results show that institutional elements (property rights, simplicity of start-up formalities, number of years in education, financial system and perception of corruption) affect venture arrangement (knowledge about what is needed to start a business), willingness and ability which in turn impact VCD.
38	Liñán et al., 2011	Quantitative cross-sectional	Closer valuation (subjective norms) and social valuation (societal admiration) of entrepreneurship and their effects on intentions in different regions.	549 final year students in business and economics classes from two different regions of Spain	Closer valuation of entrepreneurship seems to exert a stronger influence on personal attitude (desirability) while social valuation affects behaviour control (feasibility) perceptions. The effects are regionally different. Demographic and background factors are mediated by desirability and feasibility.
39	Liñán et al., 2011	Quantitative cross-sectional	Which factors are more important in EI among attitudes, situational factors and knowledge of contextual entrepreneurial support?	354 final year undergraduate business and economics students in Spain	Results confirm that perceived feasibility and desirability are the main factors explaining EI. Therefore, it may be reasonably argued that EE should consider stimulating entrepreneurship by developing perceptions of feasibility and desirability.

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40	Liñán, 2008	Quantitative cross-sectional	Effect of perceptions of closer and social valuation of entrepreneurship and perception of entrepreneurial skills on intentions	249 final year business and economics students from one Spanish university.	Closer valuation of entrepreneurship and perception of entrepreneurial skills have a strong effect on intentions though skills have a stronger effect. Wider valuation was influencing EI through entrepreneurial skills.
41	Liñán and Chen, 2009	Quantitative cross-sectional	Development and cross-cultural application of a specific instrument to measure entrepreneurial intention (EI)	387 business and economics final year students in Spain from three universities and 132 business, engineering, health and life science students participating in a business plan competition in Taiwan	Personal attitude (PA) and perceived behavioural control (PBC) have a direct effect on EI whereas subjective norm (SN) has no direct effect on EI but has an indirect effect by influencing PA and PBC. These findings are in line with previous studies that show a weak direct link between SN and EI. Demographic and human capital variables have relatively a small impact on the antecedents of EI.
42	Luthje and Franke, 2003	Quantitative cross-sectional	Effects of traits and contextual perceived barriers and support factors on entrepreneurial intent	512 MIT engineering students answered a questionnaire which had personality traits, attitude to entrepreneurship and contextual start-up barriers and support factors	Personality traits had an indirect relationship with intentions mediated by attitude while perceived barriers and perceived support had a direct effect on intentions. Attitude though had the strongest influence on intentions.
43	Luthje and Franke, 2004	Quantitative cross-sectional	Comparison of entrepreneurial intentions (EI) in different institutional and university contexts	1313 undergraduate students at Massachusetts Institute of Technology (MIT) in USA and two universities in Germany	Where personality factors are comparable, differences in EI are affected by contextual factors both in the macro environment (laws, access to finance, markets, social acceptability, etc.) and in the micro environment (university environment that fosters creativity, innovation, start-up skills, networking and other support).

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44	Manolova et al., 2008	Quantitative cross-sectional	Validate an instrument for measuring country institutional profiles for the promotion of entrepreneurship	254 business students from three emerging economies: Bulgaria, Hungary and Latvia	The Busenitz et al. (2000) instrument was validated for use in emerging markets. The ranking of the three countries' results from this survey found support from GEM ''nascent entrepreneurship ranking'', World Bank development indicators and ''Doing Business ranking''
45	Marques et al., 2012	Quantitative cross-sectional	Impact of entrepreneurship education (EE), psychological and demographic factors in prediction of entrepreneurial intention (EI)	202 secondary school students in Portugal.	Attitude, subjective norms, perceived behavioural control positively influence EI. Need for recognition (positively) and tolerance for ambiguity (negatively) influence EI. EE does not have a significant influence on EI.
46	Martin et al., 2013	Meta-analyses quantitative	Examining impact of entrepreneurship education (EET) on entrepreneurship outcomes (nascence, start-up, performance) and the formation of human capital assets (knowledge, skills, and competences), positive perceptions (attitudes, desirability, feasibility, and self-efficacy) and intention.	42 studies with 42 independent samples with total sample size of 16657 individuals	Overall small effect size but significant relationship between EET and entrepreneurship-related human capital assets (r =0.217) and outcomes (r=0.159). But the relationship with outcomes is stronger for academic focused EET interventions (r=0.238) than for training focused EET interventions (r=0.151). Studies with less methodological rigor overstate the effect of EET. Significant results between EET and knowledge/skills (r=0.237); positive perception of entrepreneurship (r=0.109); and, intentions (r=0.137)

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47	Martinez et al., 2010	Quantitative cross-sectional	Influence of entrepreneurship training on intentions and activity for the working age population (18-64 years old)	The GEM survey covered 38 countries (6 factor-driven economies including Egypt, 17 efficiency-driven economies including South Africa and 15 innovation-driven economies including the UK). Experts also rated the environment in each country.	Training increases awareness, self-efficacy and intentions but less influence on the fear of failure and opportunity recognition. Across the 38 countries, entrepreneurs are more likely to have received training in starting a business (33%) than the rest of the working age population (20%). Early stage entrepreneurial activity is significantly associated with past training in starting a business. Entrepreneurs who have received training tap into a wider variety of advisors on how to start and run a business. Proportion of trained individuals and nascent entrepreneurs is higher in innovation-driven economies. Training doubles intention but not activity in factor-driven economies due to challenging entrepreneurship environment. Gain from training in terms of increased activity is greater in innovation-driven economies due to facilitating factors. The conversion of trained individuals to entrepreneurs is higher in countries with low rate of training than in countries with higher rate of training.
48	Matlay, 2008	Qualitative 1997-2007	Entrepreneurship education (EE), intentions and actual start-up	64 students from 8 UK universities from business, computing, arts and engineering schools	EE improved self-evaluation of entrepreneurial skills, influenced intention and activity for all respondents over 10 years. 59 reported prior family entrepreneurial exposure influence.
49	Morris et al., 2013	Quantitative longitudinal	Development of competences through training and hands on practice in entrepreneurship education	40 students (15 from South Africa and 25 from USA) were first trained in entrepreneurship (morning sessions) and required to solve problems (afternoon sessions) for and with historically disadvantaged small business owners in South Africa over a period of six weeks.	Positive improvements were identified for all 40 students from the pre-test to the post-test results (six weeks) in all 13 entrepreneurial competences. However, t-tests indicate significant improvements in opportunity recognition, risk management/mitigation, tenacity/perseverance, creative problem solving, resource leveraging/bootstrapping, guerrilla skills, value creation/innovation, resilience, and networking skills.

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50	Nabi et al., 2010	Quantitative	Entrepreneurial intentions and awareness of support for start-up among university students in UK	Presents results from a data set of 8456 students from 10 universities in Yorkshire and Humberside in 2007/2008 and reflects back over similar iterations of the survey in 2003, 2004, 2005 and 2006	Decline in intentions from 2003 to 2008 among students (46% to 33%) with minorities showing higher intent. No discernible difference in intentions across years of study (1st to 3rd year students) which points to questionable impact of higher education. The majority of students (75%) were unaware of start-up support both within and outside the universities.
51	Nga and Shamugana-than, 2010	Quantitative cross-sectional	The effect of personality traits on social entrepreneurship intentions (SEI)	181 undergraduate Malaysian students	Personality traits (openness to experience, agreeableness and conscientiousness) have a positive influence on SEI.
52	Obschonka et al., 2010	Quantitative cross-sectional	Entrepreneurial intention (EI) as a developmental outcome	496 German scientists with an average age of 38	Personality (big five) and recalled early entrepreneurial activity in adolescence (early inventions, leadership and commercial activities) positively impacted EI.
53	Oosterbeek et al., 2011	Quantitative longitudinal	The impact of entrepreneurship education on entrepreneurship skills and motivation	189 treatment group and 220 control group (different campus but same college) at the beginning of academic year and 104 treatment group and 146 in the control group at the end of the Student Mini Company entrepreneurship programme in which students were grouped in ten to form a company under mentoring in a Netherlands College	The impact on students' self-assessed skills is insignificant and the effect on intention is negative

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54	Packham et al., 2010	Quantitative longitudinal	Impact of enterprise education (EE) and gender on entrepreneurial attitudes within European higher education for 18 to 24 year olds.	Students from France (112), Germany (66) and Poland (59) at beginning and end of a single entrepreneurship programme developed by Welsh Enterprise Institute (University of Glamorgan) taught in the three countries.	EE has positive effects on entrepreneurial attitudes (intentions) of French and Polish students but negative impact on German students. Males' intentions were higher in Germany and France than female intentions except in Poland were it was the opposite. German students said they were more interested in the educational experience of the course and not starting a business of their own. Low unemployment in Germany could have contributed to this.
55	Peterman and Kennedy, 2003	Quantitative longitudinal	Influencing students perception of entrepreneurship through entrepreneurship training	Pre-university secondary school students enrolled in Young Achievers of Australia (YAA) elective enterprise programme over 5 months answered a questionnaire in a pre-test- post-test setting with 117 participating students and 119 non-participating students	a) Prior exposure to entrepreneurship had a positive effect on students choosing to participate in the enterprise education programme b) After participation in the programme, there was increased desirability and perception of feasibility for venture creation than for those who did not participate in the programme

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56	Prieto et al., 2010	Quantitative cross-sectional	Direct and mediating effects of individual factors (risk taking propensity and entrepreneurial self- efficacy) and environmental factors (family, self-employment background, social networks, legal system support, government support, and social norms) on the propensity for self-employment.	530 USA students at 3 universities and 378 Mexican students at 2 universities	Self-efficacy fully mediated the relationships. In hostile environments high-in-group collectivistic societies may also generate high levels of individualism. A strong formal institutions-individual nexus in the USA and a strong informal institutions-individual nexus in Mexico as well as a prominent impact of the individual in Mexico.
57	Rauch and Frese, 2007	Meta-analyses quantitative	Influence of personality traits matched to the tasks of entrepreneurship on the business creation decision and on success	62 studies with sample size of 13280 investigating business creation and 54 studies with sample size of 3975 dealing with business success	Traits matched to the task of managing a business produced higher effect sizes with business creation and success than traits that were not matched to managing an enterprise. These traits were need for achievement, generalised self-efficacy, innovativeness, stress tolerance, need for autonomy and proactive personality. Risk taking propensity and internal locus of control had low significance.
58	Robertson et al., 2003	Quantitative cross-sectional	Barriers to start-up and their effect on aspirant entrepreneurs	82 Leeds Metropolitan University students who stated intention to start within two years of graduation and compared to 224 Yorkshire and Humber regional aspirant entrepreneurs who were identified through Business Link.	Critical barriers cited by students were lack of finance, no available support, lack of skills, lack of confidence and lack of business ideas. The older regional aspirants had more confidence and had higher rates of start-ups. The authors attributed these differences to previous work experience.

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59	Sanchez, 2013	Quantitative longitudinal 2011-2012	Pre-test and post-test impact of entrepreneurship education (EE) on entrepreneurial intention (EI) and competencies	347 EE participants and 363 non-participants among secondary school students in Spain.	Both t1 and t2 show that EI is related positively significantly to self-efficacy, pro-activeness and risk taking. For participants t2 means were significantly higher than t1 variables. However, non-participants' means show no significant difference. Mean values for participants were higher than those for non-participants.
60	Schlaegel and Koenig, 2014	Meta-analyses quantitative	A meta-analytical testing and integration of the theory of planned behaviour (TPB) and Shapero's entrepreneurial event (SEE) model.	98 studies providing 123 samples and n=114,007 individuals	Attitude to the behaviour (ATB), subjective norms (SN), entrepreneurial self-efficacy (ESE), and perceived behavioural control (PBC) have a combined predictive power on EI of R^2 28%. Propensity to act (insignificant), perceived desirability and feasibility have a combined influence on EI of R^2 21%. Integrating the determinants, ignoring propensity to act, produces a combined influence of R^2 31%; ATB (full), SN (partial), ESE (partial), and PBC (full)'s influence on EI is significantly mediated by desirability and feasibility. Feasibility's influence on EI is partially mediated by desirability.
61	Segal et al., 2005	Quantitative cross-sectional	The role of tolerance for risk and perceptions of net desirability of self-employment and feasibility in entrepreneurial intention (EI)	114 undergraduate business students at Florida Gulf Coast University in USA	Tolerance for risk and perceptions of net desirability (between self-employment and working for others) and feasibility significantly predict EI.
62	Shinnar et al., 2012	Quantitative cross-sectional	Culture and gender differences in university students' perception of barriers to entrepreneurship and formation of entrepreneurial intentions (EI)	761 students (147 Chinese, 285 American, and 329 Belgian) from one university in each country from first year to fifth year with 75.2% of students being from business and the rest from other disciplines.	Gender and culture do matter in the perceptions of lack of institutional support, competency and fear of failure and their relationship to EI but not consistently. Women perceive barriers to be more important.

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63	Siu and Lo., 2013	Quantitative cross-sectional	Impact of individualism-collectivism orientation on the strength of perceived social norms on entrepreneurial intentions	204 MBA students from mainland China and Hong Kong	The predictive strength of social norms toward entrepreneurship is high for individuals with high level of interdependent self-construal (collectivist) and low for individuals with high independent self-construal (individualistic i.e. what others think is less influential)
64	Smith and Beasley, 2011	Qualitative	Barriers and enablers that influenced recent graduates in the creative and digital industries to start their own businesses in Barnsley, South Yorkshire,UK	7 nascent graduate entrepreneurs who received a start-up grant from the Barnsley Business Mine in 2009-2010 were interviewed	Perceived barriers were lack of general business knowledge, contradictory advisory support from external agencies, lack of sector-specific mentors, lack of finance, and experience of familial entrepreneurship. Perceived enablers were co-mentoring from business partners, course content, creative and innovative ideas, increased linkages of external and internal support.
65	Solesvik et al., 2013	Quantitative cross-sectional	Effects of entrepreneurship education (EE) investment on entrepreneurial assets (alertness-scan, connect, evaluation; and, risk-taking-perception and propensity) and mind-set (intention)	Survey of 189 master and bachelor degrees students from three universities in Ukraine. EE participants were business students and control group were engineering students.	EE participants had higher intention than non-participants. EE participation interacted significantly with alertness to business opportunities (connection) in influencing intention. However, EE participants who accumulated the risk taking propensity asset reported lower intention. This meant that EE participants were more oriented to intention when they perceived less risk.
66	Souitaris et al., 2007	Quantitative longitudinal	Influence of entrepreneurship knowledge, inspiration, support services on entrepreneurial intentions	Pre-test-post-test quasi-experimental design for similar entrepreneurship modules among science and engineering students in two universities in London, UK, and Grenoble, France. 124 students took the module and 126 were in the control group.	Engineering students taking the entrepreneurship module increased their subjective norm and intention towards self-employment, whereas students in the control group did not though there was no nascence reported. Inspiration (and not perceived learning and knowledge from the module nor resource utilisation during the module) was the education's main benefit resulting in intentions.

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67	Spencer and Gomez, 2004	Quantitative	The role of country institutional profiles (normative, cognitive, and regulatory institutions) and their influence on basic, moderate and advanced forms of entrepreneurial activity	Institutional pillar ratings by 65 officers responsible for political, economic and commercial affairs assigned to US embassies in each of the 14 countries of study and similar officers from each country assigned to that country's embassy in USA. In addition, 1999 UN and World Bank employment, small businesses and GDP figures were used.	Favourable regulatory institutions positively associated with new stock exchange listings and negatively associated with self-employment; favourable cognitive institutions (entrepreneurial skills and abilities) positively affected small businesses and new listings; and favourable normative institutions marginally positively associated with high self-employment. Lower GDP per capita predicted high self-employment and high prevalence of small businesses.
68	Stenholm et al., 2013	Quantitative	Exploring country-level institutional arrangements on the rate and type of entrepreneurial activity	63 countries' secondary data from the World Bank Group Entrepreneurship Entry Density data, Doing Business Report, Index of Economic Freedom, Global Competitive index and GEM Entrepreneurial Aspirations Data for 2009.	Differences in institutional arrangements are associated with a variance in the rate and type of entrepreneurial activity across countries. To support innovative and high growth/impact entrepreneurial ventures a fourth pillar is required (conducive institutions resulting from knowledge spill-overs and capital necessary for high impact entrepreneurial activity).

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69	Vanevenhoven and Liguori, 2013	Quantitative cross-sectional	The impact of entrepreneurship education (EE) on the motivation process toward entrepreneurship based on social cognitive career theory. Introducing the EE project data initiative	Phase 1 data from 18,000 students in 70 countries and 141 universities in North America (8327), South America (1645), Eastern Europe (1391), Western Europe (5,213), Africa (723), Middle East (161), Asia-Pacific (1021)	Among other antecedents of EI and competences, number of courses offered in EE significantly correlated with EI across all regions r=0.14 (small effect size). However, number of extra-curricular activities was not significantly related to EI.
70	Veciana et al., 2005	Quantitative cross-sectional	Assessing the role of desirability, feasibility and social norms on entrepreneurial intentions (EI) in different contexts	837 Spanish and 435 Puerto Rican first up to final year university students	Despite high perceived desirability, low perceived feasibility due to barriers on start-up reduces EI.
71	Verheul et al., 2012	Quantitative	Moderating and mediating effect of gender on risk taking propensity, locus of control and self-employment preference and activity as well as perception of barriers, support factors in the environment	2004 Data from 29 countries including USA in the Eurobarometer survey by the Enterprise and Industry Department of the European Commission was used. The total number of observations used in this study was 8545 of which 4694 were men and 3851 were women.	Women's lower preference and actual involvement in self-employment is explained by gender interactions with risk taking propensity, internal locus of control, role models, perception of barriers such as lack of access to finance, unfavourable economic environment and administrative complexities.

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72	Volery et al., 2013	Quantitative longitudinal 2012-2013	An evaluation of the impact of entrepreneurship education (EE) and personality factors on human capital and entrepreneurial intention (EI).	494 EE upper secondary school students in Switzerland and a control group of 238 students at t1 and 345 and 133 students at t2, respectively.	Need for achievement and risk taking propensity positively significantly impact EI. EE has significant positive but limited impact on human capital assets (knowledge, opportunity identification, evaluation and exploitation). However, human capital assets had no significant impact on EI. In fact, there was a negative impact between knowledge and EI.
73	Von Graevenitz et al., 2010	Quantitative longitudinal 2008-2009	The impact of entrepreneurship education (EE) on entrepreneurial intentions (EI), skills and motivation	Ex-ante and ex-post survey on 357 undergraduate students in 3 months compulsory entrepreneurship module for Business Administration degree- Munich School of Management tLudwig-Maximilian-Unversitat (LMU), Germany.	EI reduced for the class (ex-ante survey 71.4%, ex-post 63.8%). Authors concluded that reduction was because the course helped students sort themselves into whether they are suitable for entrepreneurship or organisational employment based on aptitude self-evaluation. Overall EE led to significant positive effect on students' skills and confidence.
74	Walter et al., 2011	Quantitative cross-sectional	Effect of entrepreneurship education (EE), university level support programmes, industry ties and research orientation on business students' intentions	1530 business students and 132 professors at 25 universities in Germany	EE and industry ties positively related to intentions only for males in the sample. Negative effect of research orientation
75	Wilson et al., 2007	Quantitative cross-sectional	The relationships between gender, entrepreneurial self-efficacy (ESE), and entrepreneurial intentions	For two sample groups: 4292 adolescents in high school and 933 adult MBA students in the USA	The effects of entrepreneurship education in MBA programmes on ESE proved stronger for women than for men.

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76	Woodier-Harris, 2010	Qualitative cross-sectional	Evaluating the impact of SPEED on students' career choices	15 students interviewed using critical incident technique (CIT) from one of the 13 participating universities 3 months after completing the SPEED programme	Experiential learning approach, mentoring, funding were valuable learning experiences. Results indicate that 73% of students went on to start their businesses while 23% decided starting business was not for them but they admitted they had acquired valuable skills.
77	Wu and Wu, 2008	Quantitative cross-sectional	Effects of diversity of educational background and level on entrepreneurial intention (EI)	150 diploma, undergraduate and postgraduate, engineering and non-engineering, entrepreneurship education (EE) and non-EE students from one university in China	Respondents at diploma and undergraduate level had higher EI than those at postgraduate level. No significant difference in perceived behavioural control (PBC) between EE majors (though they had higher intentions than the rest) and non-EE majors. In fact engineering students had higher PBC and attitude. Attitude was the major predictor of EI.
78	Zellweger et al., 2011	Quantitative cross-sectional	Career intentions of students with family business background	5363 students with family business background from 87 universities in 8 European countries	Females prefer employment to founding. Positive exposure to family business leads to preferring succession intention to founding or employment. Students with higher locus of control are more likely to choose employment. Students with high entrepreneurial self-efficacy are more likely to become successors than employees. Students with higher entrepreneurial self-efficacy are more likely to become founders than successors. Transitively, the higher the motive for independence the higher the intention to found, followed by being a successor and lastly being an employee. The higher the innovation motive the higher the preference for founding than succession. Thus, perceived feasibility does not always lead to desirability (unless the independence and innovative motives are high).

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79	Zhang et al., 2013	Quantitative cross-sectional	Using Ajzen's theory of planned behaviour and Shapero's entrepreneurial event model as well as entrepreneurial cognition theory, the authors attempt to identify the relationship between entrepreneurship education (EE), prior entrepreneurial exposure, perceived desirability and feasibility, and entrepreneurial intentions (EI) for university students.	The data were collected from a survey of ten universities; they received 494 effective responses in Netherlands.	The authors used probit estimation to show that perceived desirability significantly impacts EI whereas there is no significant impact from perceived feasibility. There is a significant negative impact from exposure (which is surprising) and a significant positive impact from EE. Males and people from technological universities and/or backgrounds have higher EI than females and people from other universities and backgrounds. There are also significant positive interaction effects by gender, university type, and study major on the relationship between EE and EI.
80	Zhao et al., 2005	Quantitative longitudinal 1998-2000	The mediating role of self-efficacy in the development of students' entrepreneurial intentions (EI).	Structural equation modelling with a sample of 778 (T1) and 267 (T2) (overall matched sample 265) MBA students across 5 universities in USA	Effects of perceived learning from entrepreneurship related courses, previous entrepreneurial experience and risk taking propensity were fully mediated by entrepreneurial self-efficacy. Gender was not mediated but had a direct effect such that women had lower EI.
81	Zhao et al., 2010	Meta-analyses quantitative	Influence of personality traits using the big five factor model of personality plus risk taking propensity on entrepreneurial intentions (EI) and performance	60 studies with 66 independent samples with total sample size of 15423 individuals	The traits with positive influence on EI in order of effect size were risk taking propensity, openness to experience, emotional stability, conscientiousness, and extraversion. Agreeableness had a negative relationship. Risk taking propensity and agreeableness did not contribute to performance.